J. D. OLDS.

Carriage-Seat.

No. 199,310. Patented Jan. 15, 1878.

Fig. 1.

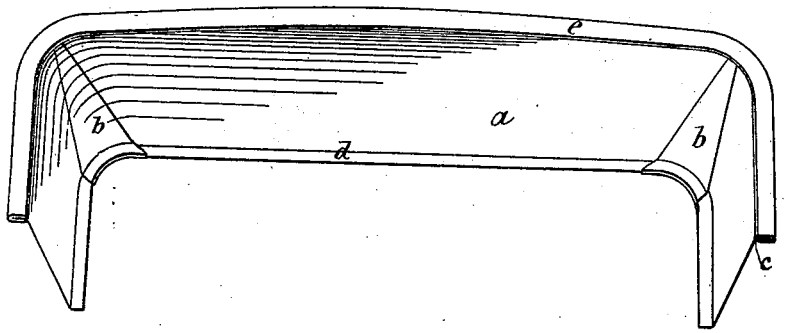


Fig. 3.

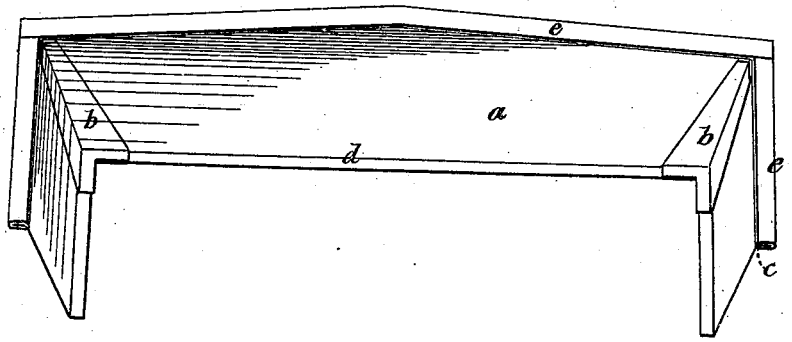


Fig. 2.

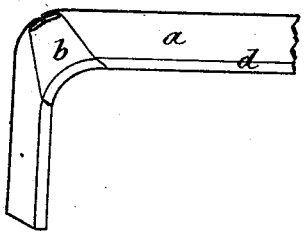


Fig. 4.

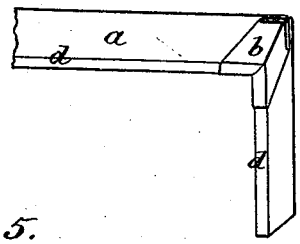
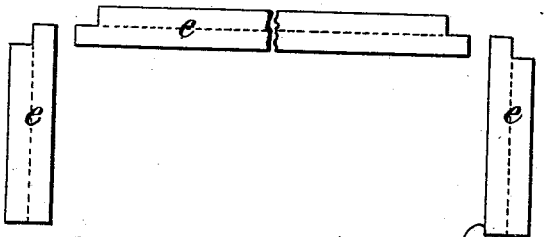


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN D. OLDS, OF FORT WAYNE, INDIANA.

IMPROVEMENT IN CARRIAGE-SEATS.

Specification forming part of Letters Patent No. **199,310**, dated January 15, 1878; application filed October 3, 1877.

To all whom it may concern:

Be it known that I, JOHN D. OLDS, of Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Carriage-Seats; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description thereof.

My said improvements relate to seats which have sheet-metal ends and back; and the object thereof is, mainly, to attain desirable strength at the rear corners (whether they be rectangular or rounded) in an economical manner, and so as to afford a neat exterior finish; and, further, to properly strengthen the upper edge without the aid of rods, wire, or fillets, thereby economically attaining a firm foundation for a carriage-top, or a high back, if desired, and at the same time securing the desirable finish which follows unbroken surfaces and the appearance of lightness in construction.

To these ends my invention consists, first, in a carriage-seat the back and ends of which are formed of a continuous length of sheet metal folded upon itself at the rear corners. The folded metal is all on the inner side, leaving the outer surface of the seat plain and smooth, save at a vertical joint at each corner, which may be filled with metal and finished in a manner well known. The several layers of metal at the folded portion are all solidly united, either by welding, soldering, or other suitable methods.

My invention consists, further, in the combination, with a sheet-metal back having an outwardly-turned top edge, of a strengthening and finishing flange composed of a continuous length of sheet metal folded flatly upon itself, and by compression made to engage firmly with both surfaces of the top of the seat-back. This portion of my invention is of special value with my novel folded corners, and also with round-cornered seats; but it has equal value with sheet-metal backs as heretofore constructed.

Finishing-flanges or top rails have heretofore been composed, in part, of a continuous length of sheet metal; but such have either been combined with a strengthening-fillet, bolted or riveted beneath the flange, or a rod or heavy wire has been inclosed by folding the metal over it. Neither of these methods admits of as light finish as mine, and they involve greater expense in construction. Both of these previous methods require riveting or bolting, or both, to secure the rail or flange to the seat, and both present angles or corners for the accumulation of dust and dirt, whereas with my seat the flange in itself has only smooth straight surfaces above and below.

Although the first-stated portion of my invention is as applicable to rectangular or square corners as to rounded corners, it is impracticable to provide for any square-cornered seat a top rail or finishing-flange in one continuous length, except by forging the same from heavy metal. For economy I use sheet metal folded flatly upon itself, as before described; but instead of a continuous length thereof the flange for square corners is made by me in three lengths, each folded upon itself, compressed upon the interposed upper edge or flange of the seat-back, and halved together at the corners, and when these are brazed, soldered, or otherwise solidly united, the flange becomes in effect one composed of a continuous length of metal, with corners actually stronger than at any other portion, because of the halving together of the metal and the additional metal used for uniting them. A seat with a flange or top rail thus constructed constitutes another feature of my invention.

To more particularly describe my invention, I will refer to the accompanying drawings, in which—

Figure 1 represents, in front perspective, a round-cornered seat-back embodying the main features of my invention. Fig. 2 represents the same in horizontal section at one of the corners. Fig. 3 represents, in front perspective, a square-cornered seat-back embodying my invention. Fig. 4 represents a corner of the same in horizontal section. Fig. 5 represents, in plan, the pieces of sheet metal which constitute the finishing-flange or top rail of a square-cornered seat.

The seat-back *a* is composed of sheet metal, preferably iron, from a strip long enough to inclose the seat at the two ends and back, and also to provide for the folding of the metal

upon itself at the inside, at each rear corner, as at *b*. By reason of the folding I have three thicknesses of the metal at the corners, which renders it practically impossible for the seat-back to cripple, as is common with sheet-metal seat-backs as heretofore constructed.

The inclination of the back is varied according to the style of carriage with which the seat is to be used, and it is usually more inclined at the back than at the ends. The folded portion *b* at each rear corner is therefore wider at the bottom than at the top, and the upper portion thereof is bent rearward as a part of the outer flange *c*, and the lower portion is bent inward as a part of the lower flange *d*, which is bolted to the bottom board of the seat. Square-cornered seats, as in Figs. 3 and 4, have a fold of the same character at the rear corners.

The folding of the metal and the forming of the flanges *c* and *d* are executed with tools, and by methods well known to workers in heavy sheet metal, and they require herein no detailed description.

The finishing-flange or top rail *e* differs from all others of which I am cognizant, in that no internal rod or wire is employed, nor any additional material applied in the way of a fillet, as heretofore. Whether for a round or a square cornered seat, a piece of sheet metal is flatly folded upon itself, and made to firmly engage with the flange *c* of the back, which is interposed between the two surfaces of the metal in the rail.

When the sheet metal, as heretofore, is bent around a rod or wire, it is impossible to so compress the front portions or edges of the metal that they will firmly engage with the flange *c*, and bolts or rivets are, therefore, essential for effecting a proper union, and these are liable, with the constant strain incident to use, to work loose and cause the joints to open. With the finishing-flange bent flatly upon itself, as described, and heavily compressed upon the flange *c*, a practically perfect union of the flange and seat is attained without the use of bolts or rivets, although these may be additionally employed, in which case they will not be liable to work loose, because they merely confine the metal in a position which it has been made to assume by previous compression, instead of being solely relied upon to unite the parts. Instead of presenting a thick heavy edge, as with the fillet or the wire, the rear edge of my finishing-flange is symmetrically rounded, and, although strong and rigid, presents a desirable light and neat effect, and there are no uneven surfaces to catch and retain dust and dirt. The front upper edge of the finishing-flange is, preferably, turned downward upon the inner face of the seat-back, as indicated in Fig. 1, at the front corners, as this serves as an additional bond of unity of the rail with the seat. It is also preferable that the front edge of the lower portion of the rail be in close contact with the rear surface of the back, below the flange *c*, because then the said edge serves as an abutment to resist downward strain on the upper rear edge of the rail, and contributes largely to its rigidity. For round-cornered seats the rail is made of a continuous length of metal, as in Fig. 1; but for square-cornered seats it is made in three lengths—one for the back and one for each end.

As heretofore made, sheet-metal square-cornered seat-flanges have required the introduction of separate square pieces of metal inserted at the corners, to effect a unity and secure a neat finish. With the metal folded flatly upon itself, as herein described, opposite portions of each piece are cut away, or halved together, as indicated in Figs. 3 and 5. The halved portions may be united by soldering, welding, or other similar means. The addition of a rivet, or the bolt by which the carriage-top or an elevated back is secured to the seat, will render the corners practically rigid.

Having thus described my invention, I claim as new and desire to secure by these Letters Patent—

1. A carriage-seat with ends and back formed of a continuous length of sheet metal, folded upon itself at the rear corners, substantially as described.

2. The combination, with a sheet-metal carriage-seat back having an outwardly-turned upper flange, of a strengthening and finishing flange or top rail, composed of a length of sheet metal bent and folded flatly upon itself, and compressed into engagement with both sides of the flange of the seat-back, substantially as described.

3. The combination, with a sheet-metal carriage-seat back having an outwardly-turned upper flange, of a strengthening and finishing flange or top rail, composed of sheet metal folded flatly upon itself, compressed into engagement with both sides of the flange of the seat-back, halved together at the corners, and united, substantially as described.

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