



# UNITED STATES PATENT OFFICE.

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## CARRIAGE-BODY JOINT.

SPECIFICATION forming part of Letters Patent No. 403,709, dated May 21, 1889.

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*To all whom it may concern:*

Be it known that I, EDWIN L. UPSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Carriage-Body Joints, of which the following is a specification.

This invention relates to improvements in carriage-body joints, the object being to furnish such a joint adapted for use in the finer class of carriages, in which any perforation of the sides or any distortion of the material thereof, as by screws or nails, is particularly objectionable.

To this end the invention consists in the improvements hereinafter more fully set forth.

In the drawings, Figure 1 is a plan view of a joint embodying my improvements, the parts being shown unclamped. Fig. 2 is a horizontal section showing the parts clamped together. Fig. 3 is a section in line *a a*, Fig. 1. Fig. 4 is a perspective view of one of the side pieces.

Similar characters designate like parts in all the figures.

In my improved joint the side pieces, A B, are mitered in the usual manner to form a corner joint at 2. In the mitered ends of said side pieces a slot, 3, is formed to receive the nut-plate 4, into which are screwed the clamp-screws 5, one or more in number. Grooves 6 are formed in the abutting miter-faces of the pieces A B to receive the said screws 5. The clamp-plate C is shaped to fit within the angle of the abutting ends of the side pieces, A B, and has lugs 7 and 8 at about right angles, as shown, to each other and to said side pieces, which lugs engage in channels 9 and 10, formed in and crosswise to said side pieces, respectively. These channels are made on the inner sides of the pieces A B at the line C, a considerable distance beyond the line *b*, Fig. 2, of the nut-plate 4, so that a distance, X, intervenes to give strength to the lip 12, lying between the two plates 4 and C. As a means for securing additional strength, the slot 9 should be shorter than the width of piece A, as well shown in the draw-

ings; and for a similar reason the slot 3 may be so formed, as implied by the dotted lines showing the same in Fig. 1. These features not only add strength, as stated, but give a more finished appearance to the completed article, since the upper surface of the side pieces is then unbroken. This construction is particularly adapted for highly-finished carriage-bodies, and especially those of light weight, in which it is considered necessary to so unite the sides that these shall be firmly drawn and clamped together, and to do this without disturbing the character of the wood, so as to produce any wavy appearance.

In assembling the parts described into a joint, as shown, the parts are first put together loosely, as in Fig. 1, the several proportions being first made to accurately correspond. Then the screws 5 are tightened, thereby causing the lugs 7 and 8 to draw on the inner sides, 13 14, of the channel or slots 9 and 10, respectively, and thus bring the whole structure into a compact and firm condition, as in Fig. 2.

Having thus described my invention, I claim—

1. In a corner joint, the combination of the mitered sides, each having a channel, substantially as described, in the mitered face, and having a groove on the inner side located beyond said channel, the nut-plate in said channels, the clamp-plate fitting the inner angle of the side pieces and having lugs engaging in said grooves, and screws connecting and clamping the said plates, all substantially as described.

2. In a corner joint, the combination of mitered sides A B, each having a channel, substantially as described, in the mitered surface, and a groove on the inner side beyond said channel and of less length than the width of the side piece, the nut-plate, the clamp-plate C, engaging said grooves, and the clamp-screws, all substantially as shown and described.

EDWIN L. UPSON.

Witnesses:

HENRY L. RECKARD,  
FRANCIS H. RICHARDS.