S. P. GRAHAM.

METAL WAGON BODY.

No. 190,311. Patented May 1, 1877.

Fig. 1.

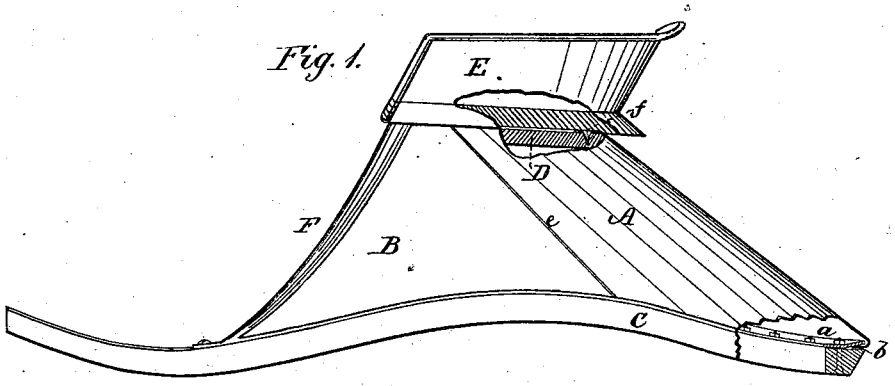

Fig. 2.

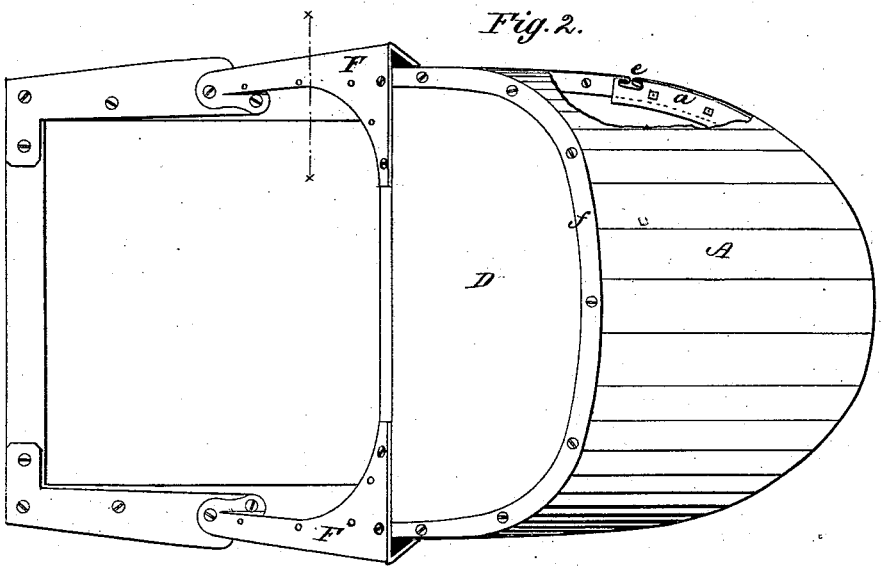

Fig. 3.

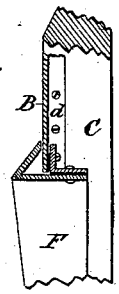

Fig. 4.

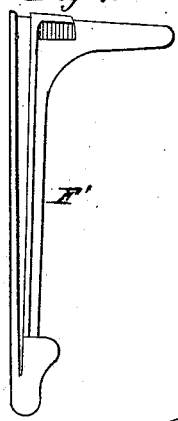

Fig. 5.

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SIMON P. GRAHAM, OF LONDON, ONTARIO, CANADA.

IMPROVEMENT IN METAL WAGON-BODIES.

Specification forming part of Letters Patent No. **190,311**, dated May 1, 1877; application filed October 16, 1876.

To all whom it may concern:

Be it known that I, SIMON PETER GRAHAM, of London, Province Ontario, Canada, have invented a new and useful Improvement in Carriages; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to an improvement in the construction of the bodies of buggies or carriages, more particularly that class in which the body is constructed of sheet metal.

The objects of the invention are, first, to provide an improved mode of connecting the body proper to the sides thereof; second, to brace and protect the vertical front edges of the sides of the body; and, lastly, to impart the desired strength and rigidity to the sides of the body, thereby preventing bending or buckling of the same.

The particular construction and arrangement of parts are as follows:

Referring to the accompanying drawing, forming part of this specification, Figure 1 is, mainly, a side elevation of my improved carriage-body, part being represented in section to show the means of connecting the body to the sills and seat-support. Fig. 2 is a plan view, also with a part broken out. Fig. 3 is a detail view, showing the construction of the compound bracket and its application to the side of the carriage-body. Fig. 4 is a rear view of the cast-metal bracket. Fig. 5 is a detail view of the lock-joint or seam between the back and side pieces of the body.

As heretofore constructed sheet-metal carriage-bodies have been attached to wooden sills by bending their lower edge inward in such manner as to inclose the outer side and bottom of the sills; but according to my invention the body is attached to the upper side of the sills.

The said body is formed in two parts—a "boot" or back part, A, and side pieces B. The former, A, is secured to the sills C by a narrow metal plate, *a*. The said plate is secured to the rear end of the sill C by screw-bolts and nuts, and the inward-turned flange *b*, which is formed on the lower edge of the back A, is confined between the plate *a* and sill C, as shown, the back being first adjusted in place, and the plate *a* then clamped firmly on the flange *b* by tightening the nuts of the screw-bolts. The triangular side pieces B of the body are secured to the sills C by means of screws inserted through the flange *d* thereof, Fig. 3.

By this construction and arrangement I economize material, since the body does not embrace the sills, and, what is more important, avoid the practical difficulty and greatly-increased expense which have attended the operation of imparting to the body the shape required to adapt it to inclose the sills, and to provide the desired bead or projection around the edge contiguous to the sills.

The side pieces B are united to the back or boot A by means of an oblique lock-joint, *e*, the construction of which is shown in detail in Fig. 5. This joint strengthens and imparts rigidity to the entire side portion of the carriage-body, and thus prevents bending or buckling of the same. A flange, *f*, Fig. 2, is formed on the top edge of the back A, through which screws are inserted to secure it to a wooden piece, D. The latter is curved on the back and ends to conform to the shape of the top of back A, and is made straight on its front side. The piece D thus not only braces the body and imparts rigidity to its top portion, but forms a base, to which the seat proper E may be conveniently and quickly secured.

The brackets or braces F give a suitable conformation to the front of the body A B, and also support, brace, and protect the front edges of the metal sides B.

As shown in Figs. 2 and 3 of drawing, the brackets F are constructed of two pieces of wrought metal, and the edges of the sides B are screwed and clamped in the space or groove between them. The brackets may also be each formed of one piece of cast malleable iron, F′, grooved in the required manner, Fig. 4, to receive the edges of the sides B.

I do not restrict myself to the use of the plate *a* for securing the flange *b* of the back A, since it is apparent bolts and washers, or flat-headed bolts alone, may be made to answer the same purpose, although in an inferior manner.

As thus constructed my improved carriage-body is lighter, stronger, and more durable

than others of its class, and may be also much more cheaply manufactured.

What I claim is—

1. The combination of the sheet-metal boot A, having the inward-turned flange *b* around its lower edge, with the plate *a* and the screws or bolts passing through the sill C, and confining the boot by clamping the flange upon the upper side of the sills, as shown and described, for the purpose specified.

2. The L-shaped brackets, provided with a groove, as shown, in combination with the sides of the body, as and for the purpose specified.

3. The carriage-body formed of the sheet-metal back or boot A and side pieces B, united by the lock-joints *e*, as and for the purpose specified.

The above specification of my invention signed by me this 14th day of October, 1876.

SIMON P. GRAHAM.

Witnesses:

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WM. H. HADAWAY.