

(No Model.)

2 Sheets—Sheet 1.

W. P. BETTENDORF.
METALLIC FRAME FOR WAGONS.

No. 479,619.

Patented July 26, 1892.

Fig. 1.

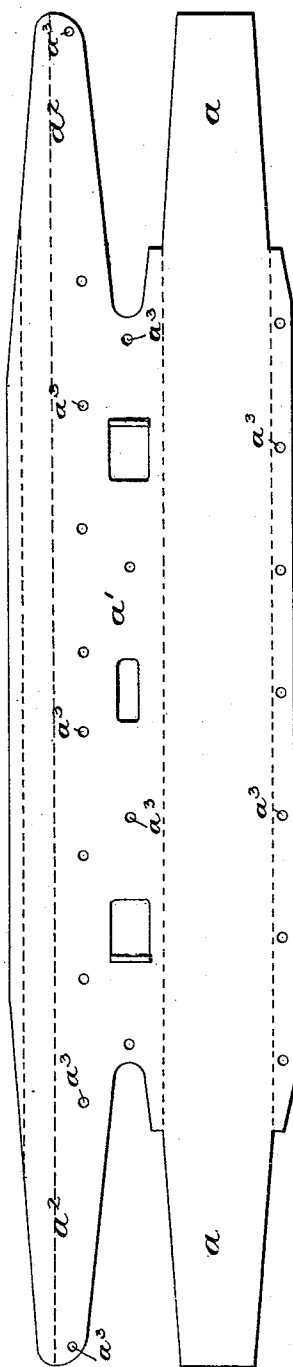


Fig. 2.

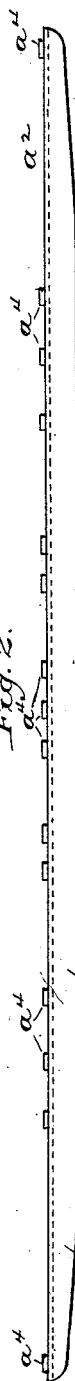


Fig. 3.

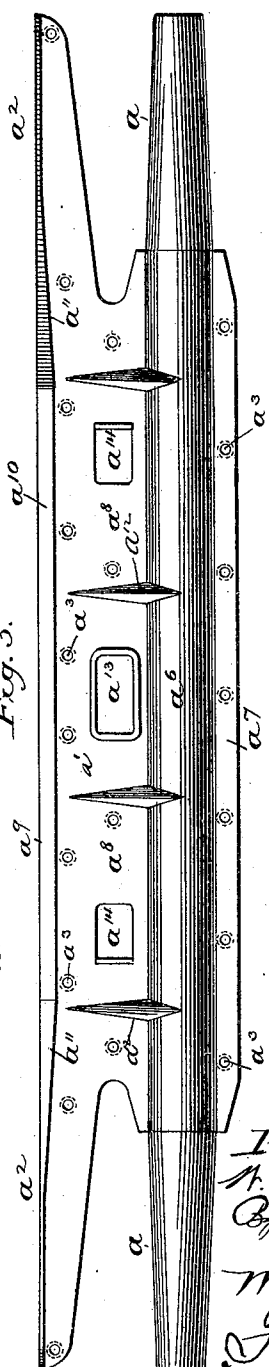
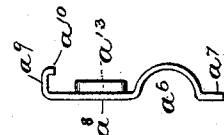


Fig. 4.



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att.
Witnesses:
J. J. Moore
Raymond Barnes.

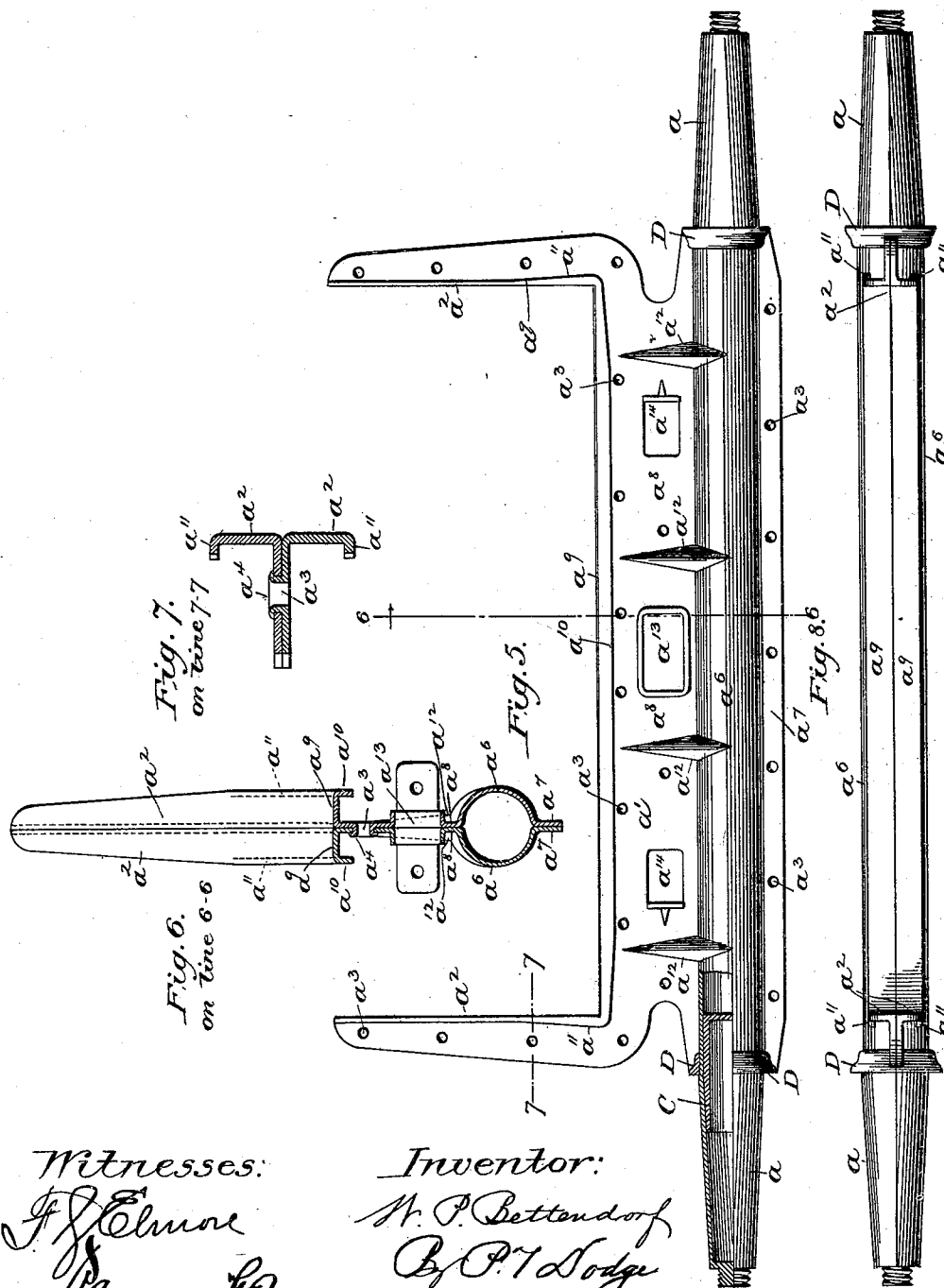
(No Model.)

2 Sheets—Sheet 2.

W. P. BETTENDORF.
METALLIC FRAME FOR WAGONS.

No. 479,619.

Patented July 26, 1892.



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UNITED STATES PATENT OFFICE.

WILLIAM P. BETTENDORF, OF DAVENPORT, IOWA.

METALLIC FRAME FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 479,619, dated July 26, 1892.

Application filed December 24, 1891. Serial No. 416,022. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. BETTENDORF, of Davenport, county of Scott, and State of Iowa, have invented a new and useful Improvement in Metallic Frames for Wagons, &c., of which the following is a specification.

The aim of this invention is to provide a sheet-metal wagon-axle, together with the bolster and stakes.

10 The principal object of the invention is to provide these parts in simple and inexpensive form and so united that their separation or disarrangement shall be impossible. To this end I construct the axle, the bolster, and
15 stakes of two longitudinal halves or members united face to face, each half being formed complete from a single sheet or plate of metal.

In the accompanying drawings, Figure 1 is a face view of one of the blanks. Fig. 2 is a
20 top plan view of the same as it appears after being bent into shape for use. Fig. 3 is a side view of the same. Fig. 4 is an end view of the same. Fig. 5 is a face view of the complete structure with one end shown in section. Fig. 6 is a vertical cross-section on an
25 enlarged scale on the line 6 6 of Fig. 5. Fig. 7 is a cross-section on the line 7 7 of Fig. 6. Fig. 8 is a top plan view of the complete structure.

I provide, as the first step in the manufacture of my structure two sheet-metal blanks, such as shown in Fig. 1, shearing or punching them from sheet-steel or other sheet metal of any suitable thickness. It will be observed that each of these blanks is provided at opposite ends with projecting tapered portions
30 a , designed to form portions of the wheel-receiving spindles, with a longitudinal portion a' , intended to form a part of the bolster, and with end projections a^2 to form portions of the stakes or standards at the ends of the bolster. Each of the blanks is provided with a series of holes a^3 , punched therethrough, the holes of one arranged to register with those of the other. One blank has the metal
40 around its holes flanged or turned outward, as shown at a^4 , Figs. 2, 6, 7, &c., in order that they may be projected through the holes of the other part, which are made of larger diameter, as hereinafter more fully explained.
50 By means of suitable dies or bending-tools I bend each of the blanks throughout its length until it presents a sectional form—such as

shown in Fig. 4—that is to say, so that it presents a semi-tubular portion a^6 to form one-half of the axle, a vertical lip or flange a^7 55 thereunder; an uprising portion a^8 to form part of the sand-board, and a horizontal upper flange a^9 to form a part of the top of the sand-board. This top flange a^9 is preferably turned downward at the outer edge, as shown 60 at a^{10} , to give increased rigidity and to produce a smooth or rounded edge in order to prevent the chafing or cutting of the wagon-body resting thereon. The dotted lines in Fig. 1 indicate the lines on which the blank 65 is bent. Having thus formed two of the blanks, one right and the other left-handed, I bring them together face to face, projecting the hollow studs of the one part through the holes in the other and flanging them down at 70 the ends to bind the two parts firmly together. Being thus united, they form jointly, as shown in Fig. 7, a hollow tubular axle with a bolster rising rigidly therefrom, the bolster presenting a wide flat top with downturned edges. 75 Before or after the parts are united I bend the ends a^2 upward until they stand perpendicular to the surface of the bolster, forming rigid stakes or standards at its ends to retain the wagon box or body in place. As the 80 flanges a^9 of the bolster are continued to the outer ends of the portions forming the standards, it follows that the standards present in horizontal cross-section a T form, as shown in Fig. 7, with wide vertical faces to bear 85 against the wagon-box, and with their outer edges turned backward, as shown at a^{11} , whereby they are stiffened, given an ornamental appearance, and a round edge presented to the wagon-body. 90

It is to be understood that while it is preferred to use the flanges a^9 along the outer edge of the bolster and the standards this is not a necessary feature of my construction.

I propose to stiffen the bolster by corrugations a^{12} and to form therein openings a^{13} and a^{14} to receive the reach and the rear hounds. I also propose to form the ends of the axle into conical spindles and to strengthen these spindles by internal sleeves C and external 100 collars D, welded thereto.

As regards the construction of the axle and the bolster herein shown, they are essentially the same as are described and claimed in my

application of even date herewith, Serial No. 416,021 and they are not, therefore, claimed in themselves as of the present invention, which is limited to a structure having the stakes or standards formed integral with the bolster and axle.

The essence of my invention resides in constructing the axle, bolster, and stakes of two complementary sheet-metal members, and it is to be understood that they may be varied in form, size, and in their details of construction, provided that only the general mode of construction herein described is retained.

Having thus described my invention, what I claim is—

1. The combined axle, bolster, and stakes consisting of two longitudinal complementary parts formed from sheet metal and united face to face, substantially as described and shown.

2. The tubular axle, the bolster integral therewith, and the standards integral with the bolster, said parts constructed substantially as described.

3. In a wagon, the tubular axle, the flanged bolster, and the flanged standards rising from the bolster, said parts constructed of two complementary sheet-metal members.

4. The herein-described blank, having substantially the outline shown in Fig. 1, with the extensions a , the portion a' , and the extensions a^2 .

In testimony whereof I hereunto set my hand this 5th day of December, 1891, in the presence of two attesting witnesses.

WM. P. BETTENDORF.

Witnesses:

CHR. LAMP,

H. G. SCHARFERBERG.