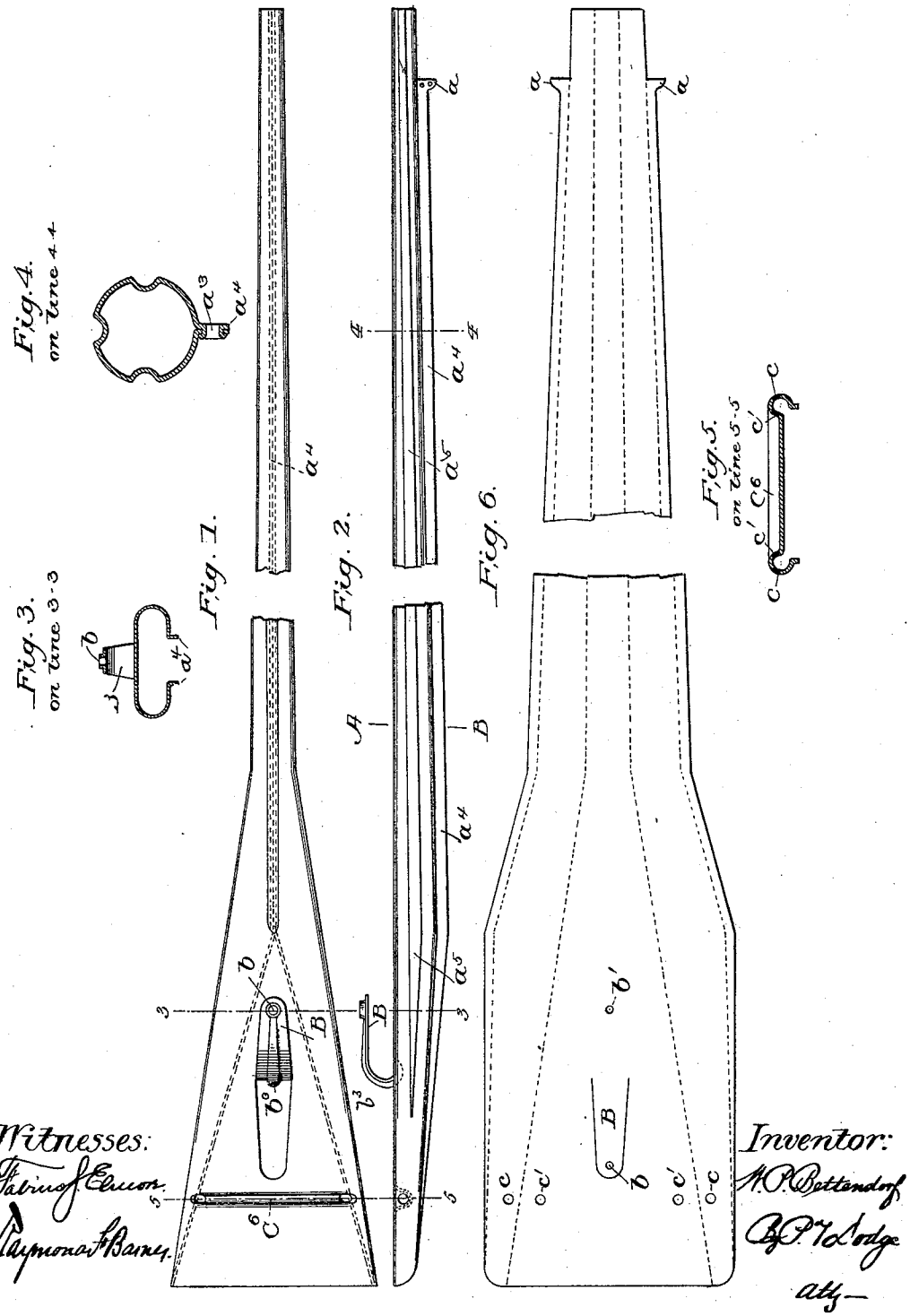
(No Model.)

W. P. BETTENDORF.

METALLIC WAGON TONGUE.

No. 479,622. Patented July 26, 1892.



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UNITED STATES PATENT OFFICE.

WILLIAM P. BETTENDORF, OF DAVENPORT, IOWA.

METALLIC WAGON-TONGUE.

SPECIFICATION forming part of Letters Patent No. 479,622, dated July 26, 1892.

Application filed January 15, 1892. Serial No. 418,136. (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 Tongues for Wagons, &c., of which the following is a specification.

This invention has in view the production of a wagon-tongue which shall possess the essential qualities of lightness, cheapness, and strength.

With these ends in view I construct my tongue of sheet metal of a hollow or tubular form.

I prefer to construct the entire tongue, including the widened rear portion, from a single piece of metal and of tubular form; but in order to diminish the weight and economize material it may be left open on the under side for a portion of its length.

Referring to the drawings, Figure 1 is a top plan view of my tongue in its preferred form; Fig. 2, a side view of the same. Figs. 3, 4, and 5 are cross-sections of the same on the lines 3 3, 4 4, and 5 5 of Fig. 2. Fig. 6 is a plan view of the blank from which the tongue is formed.

In proceeding to manufacture my tongue I first cut or stamp from sheet-steel or other sheet metal a blank of the form shown in Fig. 6 or of similar form, of a length corresponding with that of the required tongue, and of an increasing width from one end toward the other. As the rear end of the tongue to fit between the diverging hounds should be considerably wider than the remaining portion, the blank is widened accordingly at the rear end, its edges being preferably parallel for a distance of twenty-six inches, or thereabout. Of course the tongue may be of any suitable length; but it is commonly made of a length of from ten to eleven feet. The blank, commencing with a width of about six inches at the forward end, is gradually widened to fourteen inches, and then widened to twenty-one inches at the rear end. These dimensions may of course be modified at will and are used herein simply for purposes of illustration. At the forward end the blank is provided with lateral projections or ears *a* to form a shoulder for a neck-yoke, as hereinafter explained. Near the rear end a U-shaped incision is made through the middle of the blank, thus cutting loose tongue B, which is afterward turned upward over the top of the tongue to form a hammer-strap, as shown in Figs. 1, 2, and 3. A hole *b* is punched through the end of this strap and a second hole *b'* punched through the middle of the blank to register therewith, so that the pin to hold the doubletree, commonly known as the "hammer-pin," may be seated therein. Near the rear end of the blank, in the same transverse line, I punch four holes *c* and *c'* for the purpose which will presently appear.

Having produced the blank, as above described, I bend or fold the same in cross-section along the longitudinal dotted lines represented in Fig. 1, so that it presents in cross-section at different points the forms shown in Figs. 3, 4, and 5. For about seven feet of its length, at the forward end, the tongue is of tubular form, the two edges of the blank being brought together vertically face to face along the under side and riveted firmly together, thus preserving the tubular form and at the same time giving increased strength to the structure. These downward flanges a^4 may be riveted, welded, seamed, or otherwise fastened together, according to either of the modes commonly practiced by mechanics for joining the edges of sheet metal. I prefer, however, to punch holes a^8 through the flanges, the metal of one flange being punched up around the hole in the form of a tubular rivet, which is projected through the opposite flange or hole and burred down on the outside, as shown in Fig. 4. These tubular rivets integral with the tongue are found to answer their purpose in an excellent manner. The lips, projecting downward on the under side of the tongue, near the front end, form a shoulder for the ring of the neck-yoke or other holdback device to bear against, as usual. It will be perceived that the bottom lips or flanges are omitted forward of the ears or projections *a*, so that the extreme front end of the tongue presents a round form to receive the ring of the neck-yoke.

The rear end of the tongue, increasing rapidly in width to fit between the hounds, may be left open on the under side, as shown in Fig. 3, the edges of the blank being turned

downward and inward, so as to give the proper external form and the necessary rigidity. Increased strength is given by turning the edges along this open portion downward in the form of flanges a^4, as shown in Fig. 3.

Increased strength may be given the tongue as a whole by forming longitudinal flutes or corrugations a^5 therein, as shown in Figs. 1, 2, and 4. These corrugations may be of any suitable form in cross-section and be extended to any part in the length of the tongue. I prefer to provide the hammer-strap also with a longitudinal corrugation b^3 to increase its stiffness and to press the metal of the hammer-strap upward around its hole b to form an annular flange, as shown in Figs. 1 and 2, to give an increased bearing-surface for the hammer-pin.

At the rear end the tongue may be provided with a transverse horizontal hole to receive the bolt by which it is connected to the hounds or other portion of the wagon. This transverse hole may be formed in any suitable manner; but I recommend the construction shown in Figs. 1, 2, and 5. Referring to these figures, it will be seen that a deep grooving or indentation C^6 is formed transversely in the upper part of the tongue by pressing down the metal between the holes c' c'. Now when the edges of the blank are bent downward into shape the holes c' c' in the sides of the tongue are brought into line with the holes c c and the channel C^6, as plainly represented in Fig. 5, so that the bolt may be passed transversely through the holes c', the holes c, and the intermediate channel C^6. In this way I obtain a very extended bearing-surface for the bolt, so that there is no danger of the tongue wearing loose thereon.

It will of course be manifest to the skilled mechanic that the sectional form of the tongue may be varied at different points in its length at will, provided only the general mode of construction herein described is retained. For example, it is manifestly immaterial whether the tongue is round, rectangular, or of other outline in cross-section, and it is immaterial as regards the general result to what extent the tongue is left open on the under side, provided the requisite rigidity is retained. It is also obvious that the hammer-strap may be formed in a separate piece and secured to the tongue in any appropriate manner.

I believe myself to be the first to produce a hollow sheet-metal wagon-tongue, and this I broadly claim in any form the mechanical equivalent of that herein shown.

In special cases I propose to omit that portion of the tongue lying forward of the line A B, Figs. 1 and 2, and to introduce a wooden bolt or tongue into the remaining portion.

Having thus described my invention, what I claim is—

1. A wagon-tongue formed of sheet metal, the front or pole portion bent into tubular form and the rear portion flat and of a width and shape to fit between the front hounds of the wagon, substantially as shown and described.

2. A wagon-tongue formed of sheet metal, the front or pole portion bent into tubular form and the rear portion flat, of size and shape to fit between the front hounds of the wagon, and having downturned edges with openings therein for the reception of the cross-bolt, substantially as shown and described.

3. A sheet-metal wagon-tongue having an integral hammer-strap formed by bending up a strip of metal severed along its longitudinal edges and at one end, substantially as shown and described.

In testimony whereof I hereunto set my hand, this 15th day of December, 1891, in the presence of two attesting witnesses.

WILLIAM P. BETTENDORF.

Witnesses:
THOS. B. CARSON,
E. D. CLARK.