

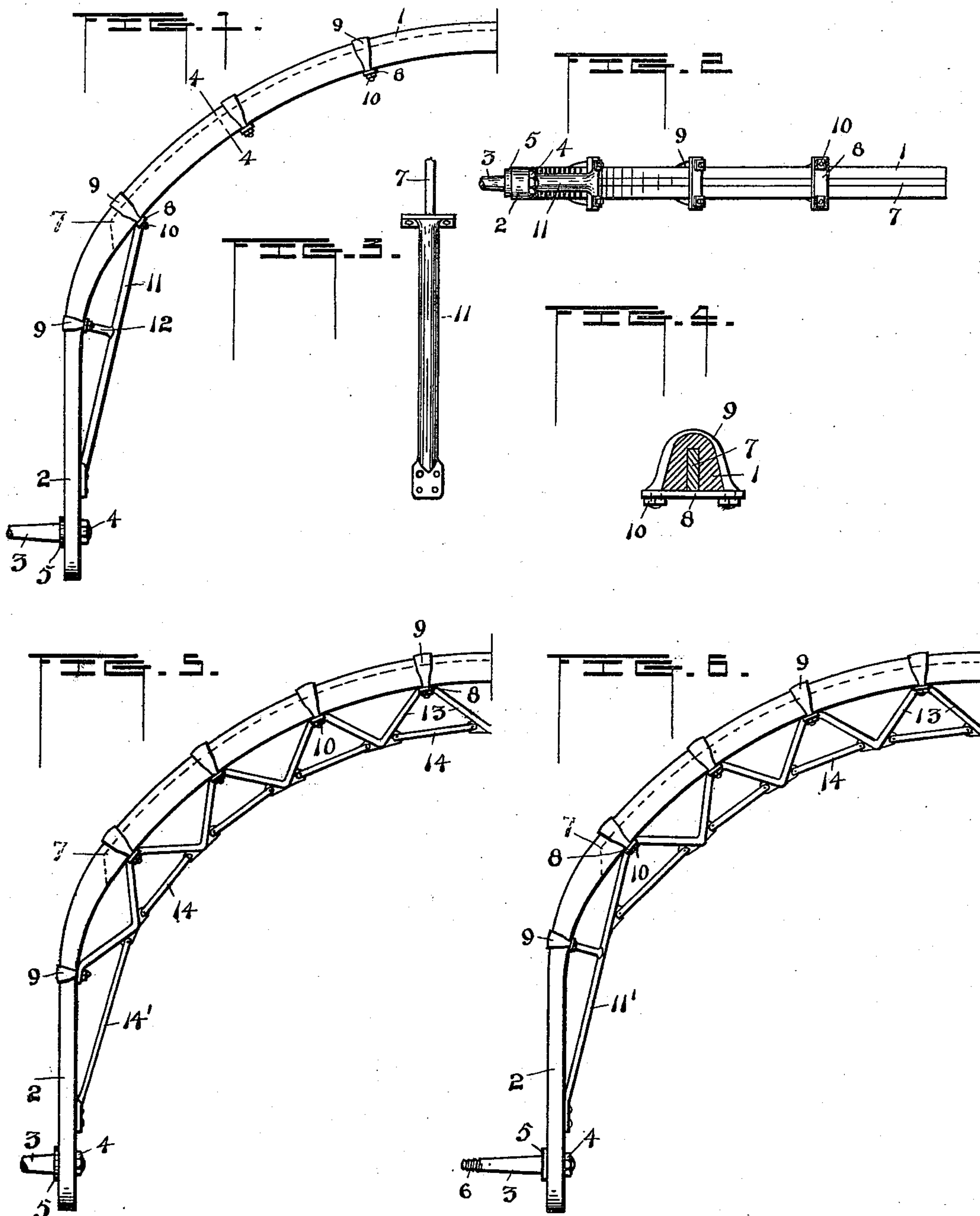
(No Model.)

2 Sheets—Sheet 1.

J. P. FABER.  
SULKY.

No. 510,248.

Patented Dec. 5, 1893.



Witnesses  
Arch. M. Catlin.  
O. H. Kearn

Inventor  
John P. Faber  
by  
Benj. R. Catlin Attorney

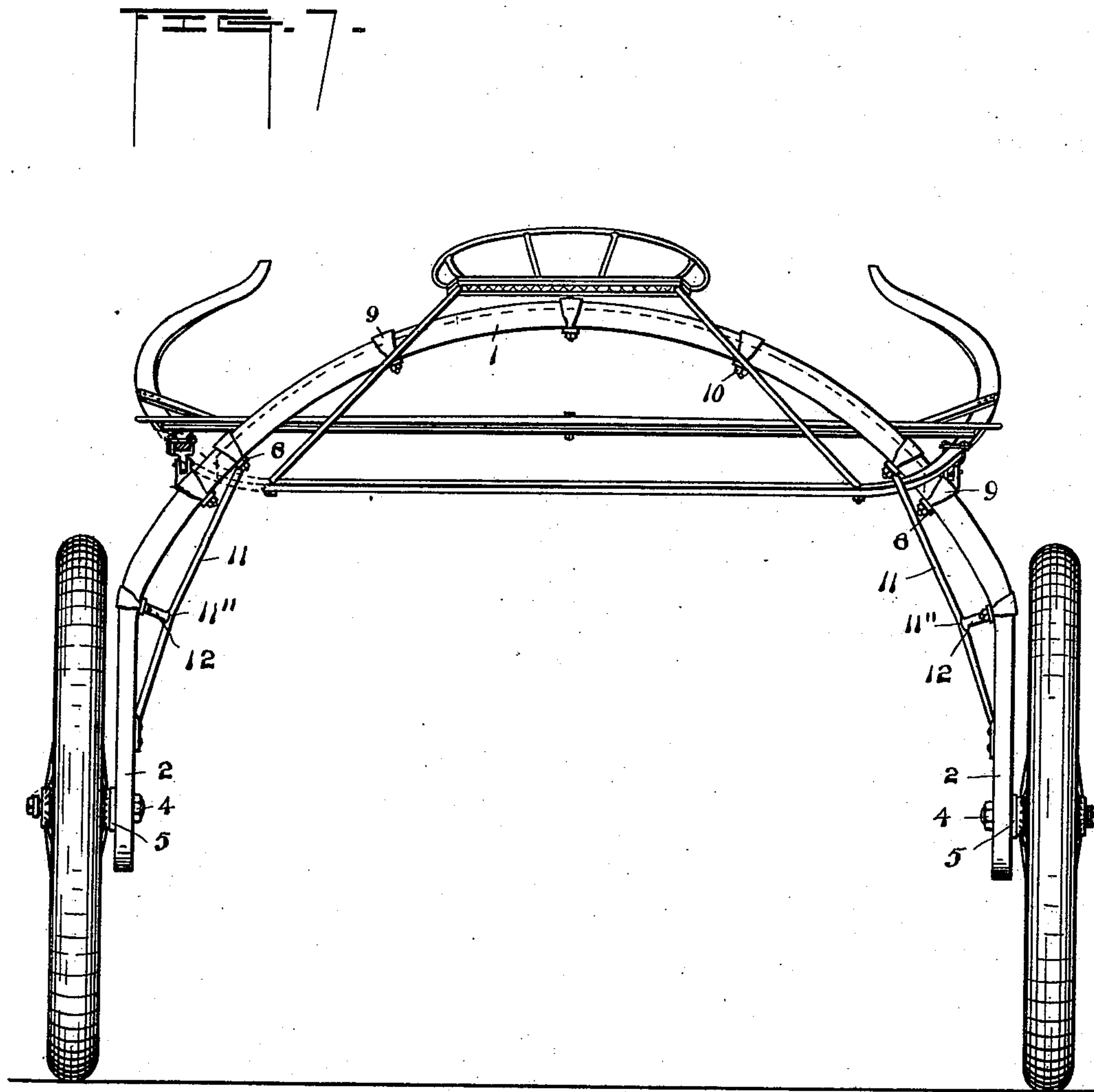
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2 Sheets—Sheet 2.

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Witnesses  
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Inventor  
John P. Faber  
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# UNITED STATES PATENT OFFICE.

JOHN PETER FABER, OF ROCHESTER, NEW YORK, ASSIGNOR TO ALICE  
FABER, OF SAME PLACE.

## SULKY.

SPECIFICATION forming part of Letters Patent No. 510,248, dated December 5, 1893.

Application filed December 30, 1892. Serial No. 456,839. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN PETER FABER, a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Sulkies; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to arched axles for sulkies and has for its object to strengthen them without unduly increasing their weight; and it consists in the construction hereinafter described and particularly pointed out.

In the accompanying drawings Figure 1 is a side elevation of one half of an arched axle. Fig. 2 is a plan of the under side of the same. Fig. 3 is a plan looking from within the arch of a brace and a portion of a steel bar constituting a part of the axle arch. Fig. 4 is a section on line 4—4 of Fig. 1. Fig. 5 is a side elevation of half of the arched axle provided with braces; and Fig. 6 is a partial side elevation of the same showing a brace similar to that illustrated in Fig. 1. Fig. 7 is a rear elevation of a sulky.

The axle arch is composed of a wooden portion 1 bent by preference in the form shown. The curved part of the arch terminates at each end in a vertical portion 2 which is adapted to support a spindle or axis 3 suitable to receive a wheel. This spindle can be secured to the arch by a screw threaded portion fitted to receive a nut 4. A flange or shoulder is denoted by 5, and 6 indicates a screw threaded portion adapted to receive a nut outside the wheel hub. Within a slot or groove in the wooden arch is secured a curved steel bar denoted by 7. This has the same curvature as the wood and its inner face is in the same plane as the inner face of the wood so that the cross pieces 8 of the clips 9 bear against the under side of both parts and hold them firmly together when the clips are tightly secured by the nuts 10. The steel bar 7 is preferably terminated at each end at a considerable distance above the wheel spindle as indicated by dotted lines in Figs. 1 and 5.

The described combination of wood and

steel secures combined strength, lightness and elasticity in greater degree than practicable with either material alone.

To stiffen the arch where its curved and vertical portions join, a brace 11 is employed. The upper end of this brace is held to the arch by a clip, and the lower end by bolts or otherwise if desired.

12 indicates a stay or strut adapted to hold the brace 11 and the vertical part of the arch in fixed relation and so as to strengthen this part of the structure.

It may be noted that by terminating the curvature of the arch at a considerable distance above the wheel axis and making its end vertical, room is provided for a brace 11 without interfering with the movement of the horse's limbs.

In some cases the axle arch will be stiffened and strengthened by a series of braces 13 the upper end of each of which is secured under a clip 9. The lower ends of the braces are firmly joined by tie rods 14. These as well as the braces may if preferred be made of one piece. Each rod or portion 14 is by preference the chord of an imaginary curve parallel to the arch 1, and having the same curvature.

When braced and strengthened as indicated in Fig. 5 the main member of the axle arch may be much reduced in size and weight and still leave the structure as a whole exceptionally strong.

The improvements herein described are in part applicable to arched axles of other forms.

Instead of continuing the braces 13 down to the vicinity of the wheel axis a comparatively long rod or brace 14' or 11' may be employed which will be situated farther from the path of the horse's limbs than would a continuation of braces 13. In some cases the brace 14' will be firmly joined to the arch by a transverse strut or tie rod 12.

In Fig. 7 is illustrated an improvement whereby the weight of the driver is supported from the limbs or outer portions of the axle arch instead of from its center or from near its center. The braces joining the foot of the arch to a higher point in the same are in this case shown as bent at 11' to keep their lower ends out of the horse's path and at the same



time permit the upper ends to be attached to the arch within or beyond the point of attachment of the thills upon which the seat is supported. By this construction the weight of the driver is supported almost directly over the wheel spindles by the approximately vertical portions of the arch and the upper curved part of the latter is relieved in manner to provide for considerable reduction in its weight. In this construction the steel bar 7 can if desired be made shorter than in cases where shorter braces are employed.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a sulky the arched axle consisting of the curved wooden part having straight vertical ends and a steel bar of like curvature inclosed in the wood and terminating near the junction of the curved and straight portions, and a brace extending from above the end of the steel to near the wheel axis and a clip securing the brace, steel bar and wooden axle together, substantially as set forth.

2. In a sulky the curved axle, the braces 13 secured by clips to the main part of the axle

and the rods 14 connecting the lower ends of the braces all combined substantially as set forth.

3. In a sulky the curved axle, the braces 13 secured by clips to the main part of the axle, the rods 14 connecting the lower ends of the braces, and the brace 14', substantially as set forth.

4. In a sulky the combination of the seat, the thills, the arched axle, and the wheel spindles, with braces extending from the vicinity of the spindles to the shoulders of the arch, each thill being attached to said arch below the upper end of the brace, and the seat being supported upon the thills, whereby the load is sustained by the outer limbs of the arch and its upper part relieved; substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN PETER FABER.

Witnesses:

O. H. KEAN,  
ARCH. M. CATLIN.