(No Model.) 2 Sheets—Sheet 1.

E. S. FRAZIER.

SULKY.

No. 545,476. Patented Sept. 3, 1895.

Fig. 1.

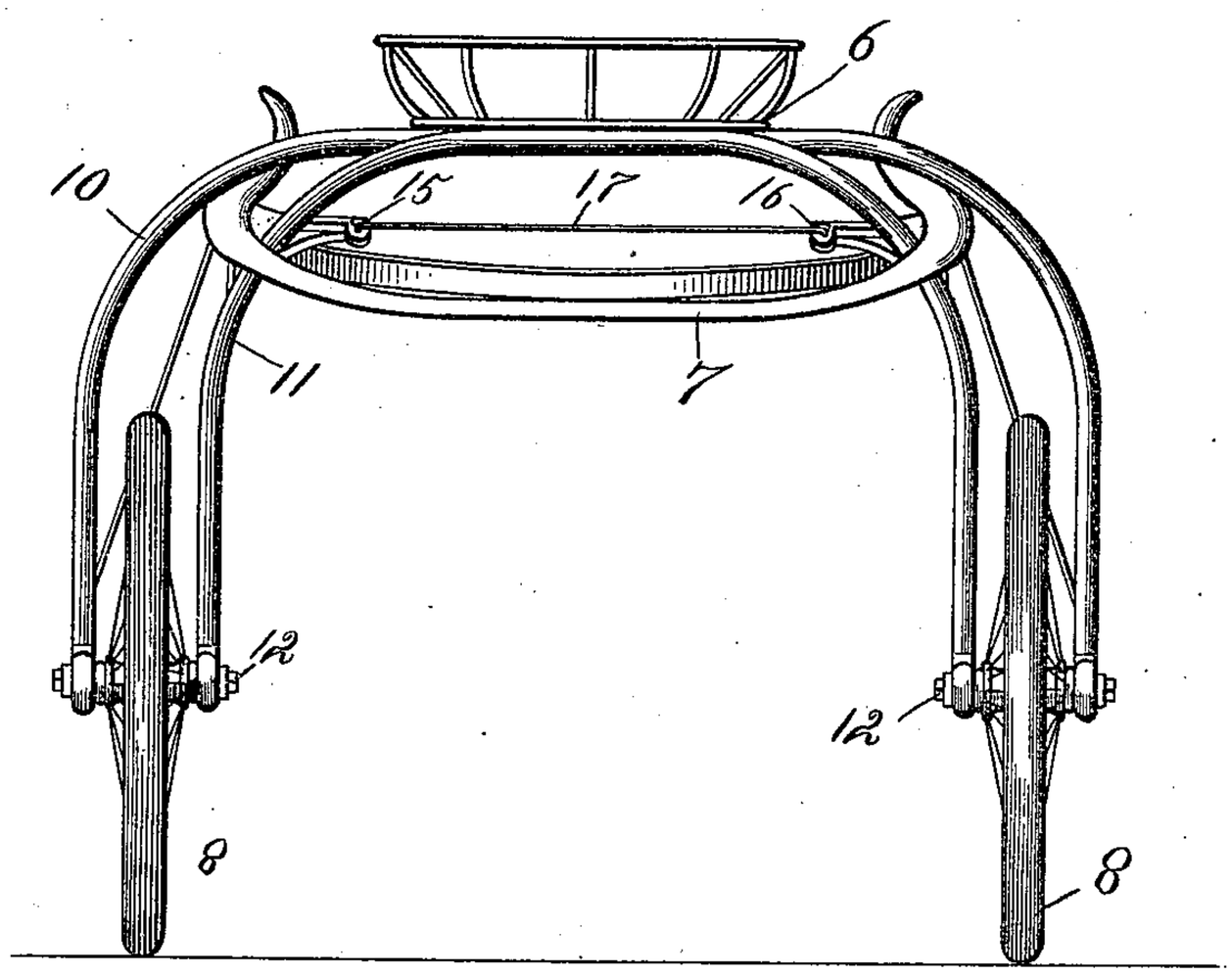
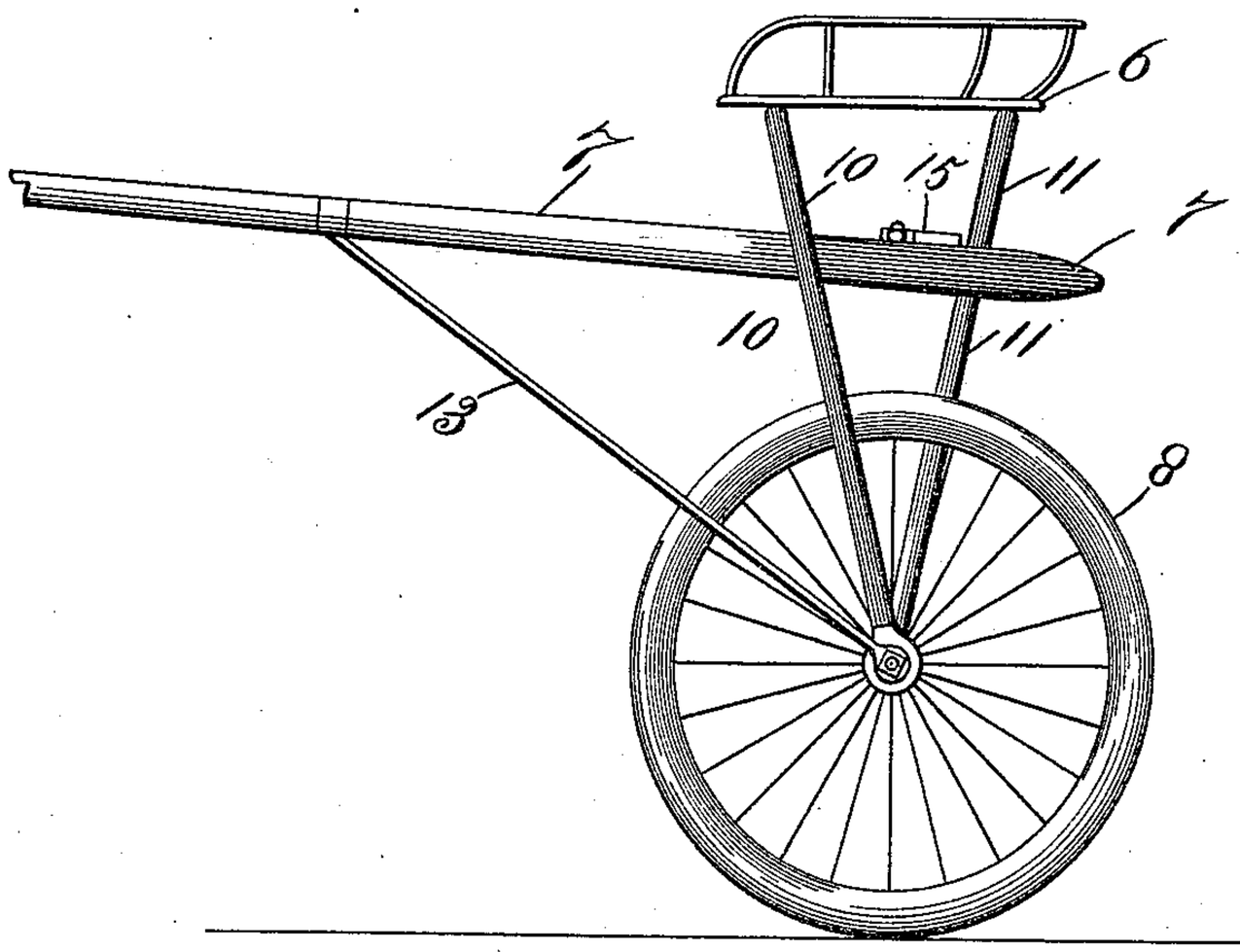


Fig. 2.



Witnesses:
Julia M. Bristol
Nellie McKibben

Inventor:
Edward S. Frazier
by Bond, Adams, Pickard & Jackson Attys

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

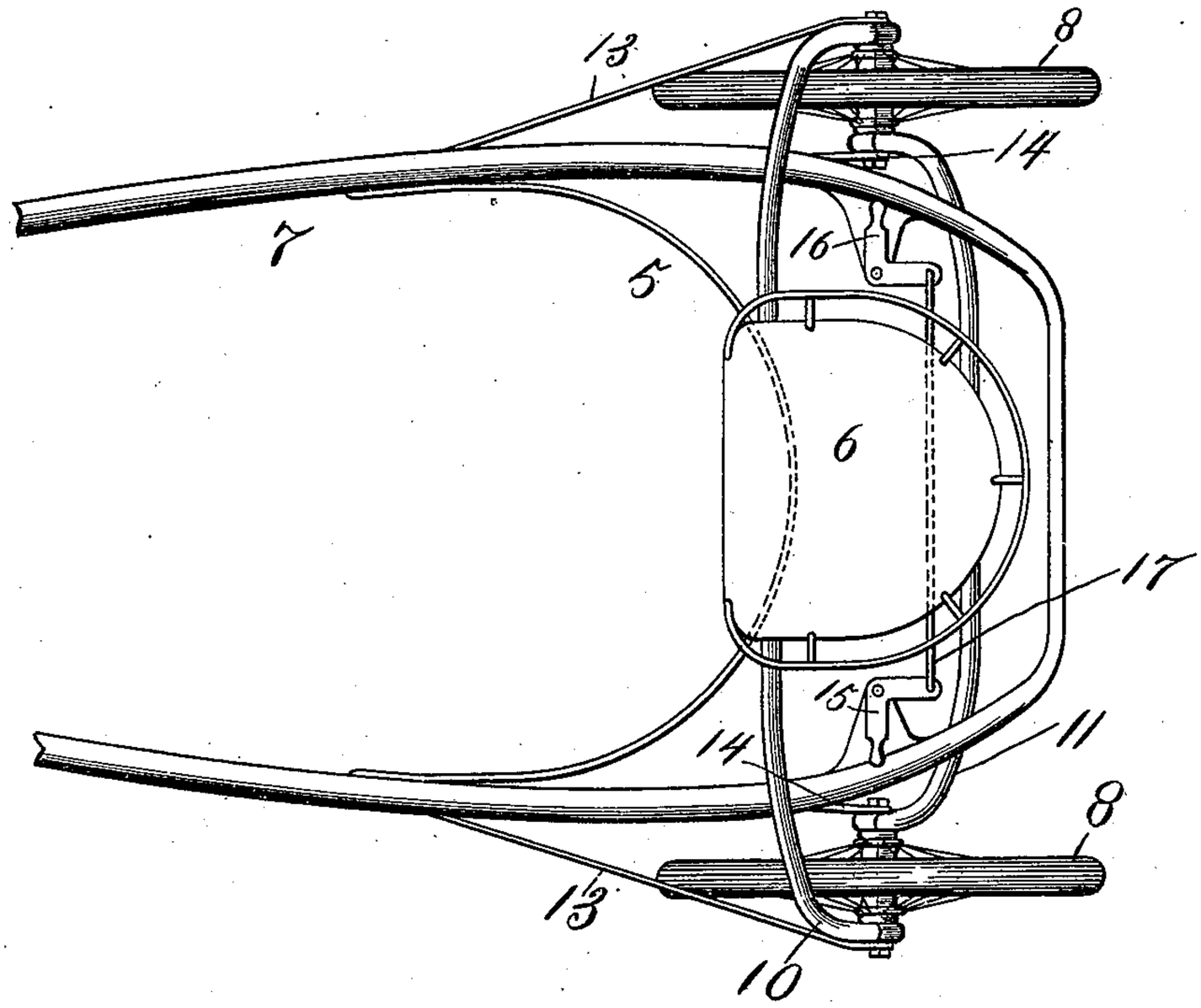
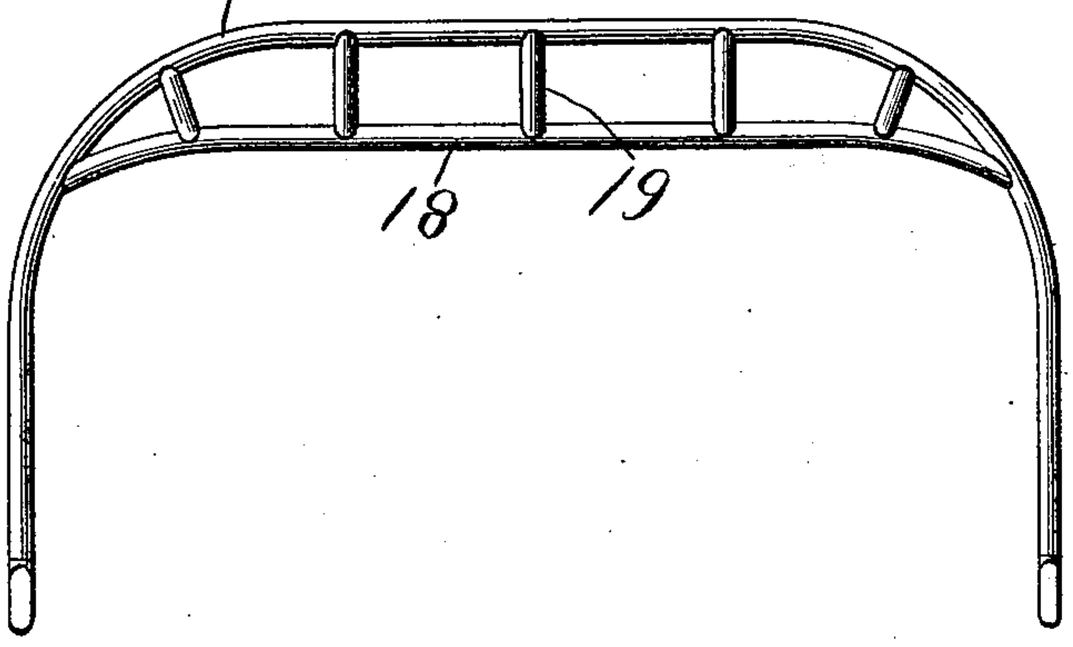


Fig. 4.



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Inventor:
Edward S. Frazier
by Bond, Adams, Pickard & Jackson
his Attys.

UNITED STATES PATENT OFFICE.

EDWARD S. FRAZIER, OF AURORA, ILLINOIS.

SULKY.

SPECIFICATION forming part of Letters Patent No. 545,476, dated September 3, 1895.

Application filed May 25, 1893. Renewed May 25, 1895. Serial No. 550,718. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. FRAZIER, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Sulkies, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a rear view, Fig. 2 is a side elevation, Fig. 3 is a plan view, and Fig. 4 is a rear view, of a modified form of the axle.

My invention relates to sulkies, and particularly to that class commonly known as "bicycle-sulkies," in which the sulky is provided with small wheels provided with pneumatic tires.

The principal object of my present invention is to provide a sulky of the class described which will be provided with an axle which will be light, strong, and durable. Heretofore sulkies have been provided with axles commonly known as "trussed axles," or with axles formed of two curved members, one placed within the other, their ends extending downward on opposite sides of the wheels and carrying wheel-spindles, the two members of the axle being braced by short braces placed at suitable intervals apart. This latter construction has been found to be lacking in durability and strength, and my present invention is designed to provide an axle which will be superior to those above referred to.

Another object of my invention is to provide a new and improved singletree.

I accomplish these objects as hereinafter specified and as illustrated in the drawings.

That which I regard as new will be set forth in the claims.

In the drawings, 5 indicates a sulky, of which 6 indicates the seat, 7 the shafts, and 8 the wheels.

9 indicates the axle, which is composed of two curved members 10 11, of different degrees of curvature. The curved members 10 11 are placed at an angle to each other, as shown in Fig. 2, and carry the seat 6, as shown, the member 10 supporting the front portion of the seat and the member 11 the rear portion thereof. The lower ends of the members 10 11 lie in the same line and carry the wheel-spindles 12, as shown in Fig. 1. The wheels 8 are adapted to be mounted upon the wheel-spindles and to turn between the lower ends of the members 10 11, as shown in Figs. 1 and 3, the ends of the member 10 being on the outside and the ends of the member 11 on the inside of the wheels, or vice versa. The rear portion of the shafts 7 passes between the members 10 11, and is secured thereto, as shown in Fig. 2.

13 indicates external braces, which extend from the wheel-spindles 12 to the shafts 7, as shown in Figs. 2 and 3.

14 indicates internal braces, which are secured to the inner ends of the wheel-spindles and to the shafts 7, as shown in Fig. 3.

By the above construction an axle is produced which is very light and which is also very strong.

15 16 indicate a pair of bell-crank levers, which are secured at opposite sides of the sulky directly to the shafts or upon suitable supports. The rear arms of the levers 15 16 are connected by a wire 17 or other suitable connecting device, as shown in Fig. 3. The traces are adapted to be secured to the free ends of the levers 15 16. By this construction the force of the draft will be exerted upon the wire 17, and, owing to the elasticity of the wire, the singletree will yield slightly when the draft is first applied. This construction tends to prevent jerking or straining of the sulky from starting suddenly. It is also very light, which is an important advantage.

In Fig. 4 I have shown one of the members, as 11, provided with a truss 18 and braces 19. This construction may be used for one or both members if extraordinary strength is desired.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A sulky axle consisting of two curved members arranged at an angle to each other, and wheel spindles supported between the lower ends of said members, substantially as described.

2. In a sulky, the combination with an axle composed of two curved members 10—11 arranged at an angle to each other, of wheels journaled between the lower ends of said members, a seat mounted upon the upper por-

tions of said members, and shafts, substantially as described.

3. In a sulky, the combination with an axle composed of two curved members 10—11 arranged at an angle to each other, of wheels journaled between the lower ends of said members, a seat mounted upon said axle, shafts, and external and internal braces for the ends of said members, substantially as described.

EDWARD S. FRAZIER.

Witnesses:
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A. H. ADAMS.