(No Model.)

A. BEDFORD.

SPOKE FOR VEHICLE WHEELS.

No. 477,290. Patented June 21, 1892.

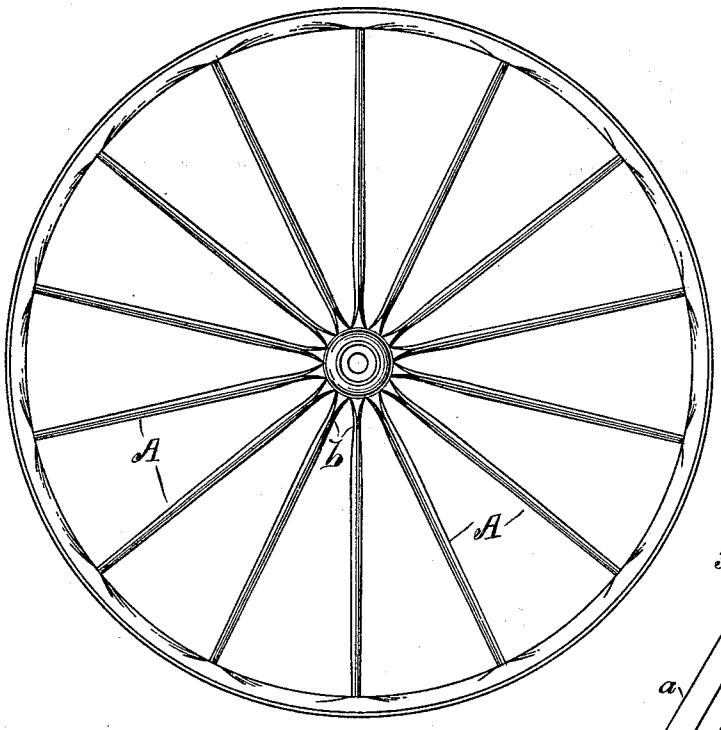

Fig. 1.

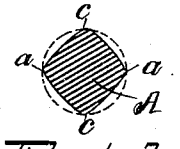

Fig. 3.

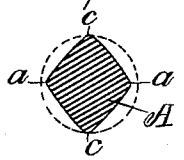

Fig. 4.

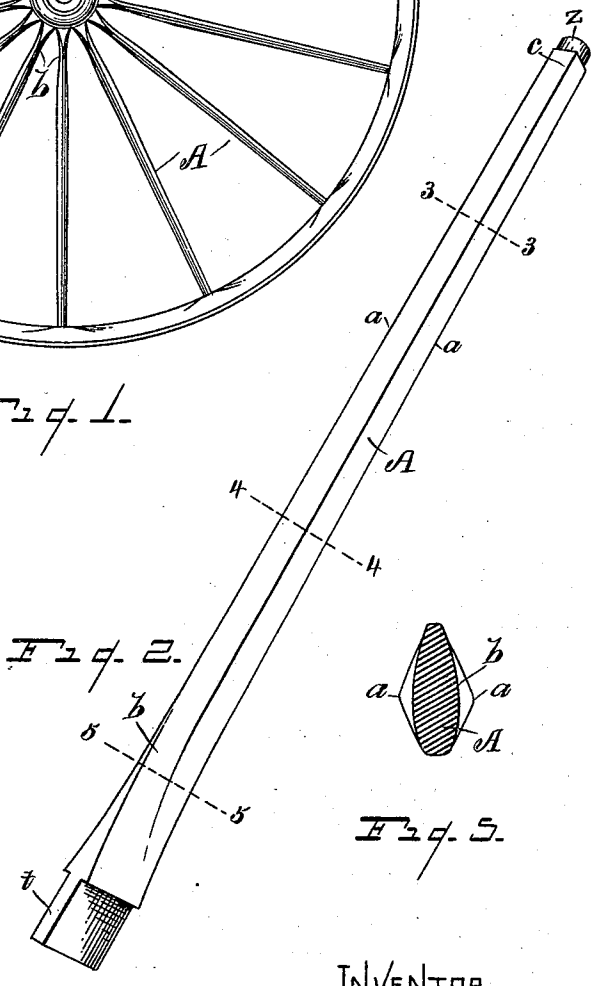

Fig. 2.

Fig. 5.

WITNESSES.

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SPOKE FOR VEHICLE-WHEELS.

SPECIFICATION forming part of Letters Patent No. 477,290, dated June 21, 1892.

Application filed July 20, 1891. Serial No. 400,070. (No model.)

To all whom it may concern:

Be it known that I, ALMA BEDFORD, a citizen of the United States, residing at Coldwater, in the county of Branch and State of Michigan, have invented certain new and useful Improvements in Vehicle-Wheels; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in vehicle-wheels, especially designed for light racing-sulkies; and it consists in a certain construction and formation of parts, as hereinafter fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to produce a vehicle-wheel of light weight without sacrificing the necessary strength and stiffness of the wheel, and by means of which the draft of the vehicle is reduced by a decrease in the air-resistance to the revolution of the wheel. This object is attained by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a wheel embodying my invention. Fig. 2 is an enlarged perspective view of one of the spokes thereof. Fig. 3 is an enlarged cross-section on dotted line 3 3 of Fig. 2. Fig. 4 is a like section on dotted line 4 4 of Fig. 2, and Fig. 5 is a like section on dotted line 5 5 of Fig. 2.

Referring to the letters of reference, A designates the wooden spokes of the wheel having the common foot *t* and the tongue *z*. The body of these spokes, as will be seen, is rhombal in cross-section, instead of being elliptical, as commonly made, the throat *b* thereof being of the usual oval form in cross-section, from which point the rhombal formation of the spoke begins, as shown in Figs. 2 and 5. By making the throat thin and oval in form the requisite resiliency is imparted thereto, obviating undue rigidity in the wheel, which would result were the rhombal form continued to the foot of the spoke.

In producing this form of spoke the round portion between the acute and obtuse angles thereof, as indicated by dotted lines in Figs. 3 and 4, and common in other spokes, is cut away, the requisite thickness of the spoke being preserved through the obtuse angles *a* and the requisite width through the acute angles *c*, thereby forming a spoke of greatly-reduced weight that is still possessed of the required strength and stiffness, making a wheel constructed thereof several pounds lighter than when constructed of the ordinary spoke. This is an important feature in the building of racing-sulkies, wherein lightness and strength is the object to be attained. Another important feature of advantage in the employment of this improved spoke is the reduction of air-resistance to the revolution of the wheel when the vehicle is being drawn at a high rate of speed. The beveled faces of the spokes formed by the obtuse angle *a* present a smaller area of surface at greater angle to the resistance of the air than the elliptical form of spoke commonly used, effecting a corresponding reduction in the draft of the vehicle.

The spoke is made tapering longitudinally, but maintaining from the throat to the tongue the quadrilateral form, as before set forth.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a wooden spoke for vehicles having a foot at one end and a tongue at the opposite end, and an interposed throat oval in cross-section, the body of said spoke being rhombal in cross-section, as set forth.

2. In a vehicle-wheel, the combination, with the rim and hub, of the spokes having a square foot secured in the hub, the resilient throat oval in form, the rhombaled-formed body extending from the throat to the outer end, which is provided with a plain tenon secured in the rim.

In testimony whereof I affix my signature in presence of two witnesses.

ALMA BEDFORD.

Witnesses:
JOHN R. CHAMPION,
CHAS. N. CHAMPION.