E. DANFORD.

CARRIAGE WHEEL FELLY.

No. 183,647. Patented Oct. 24, 1876.

Fig. 1.

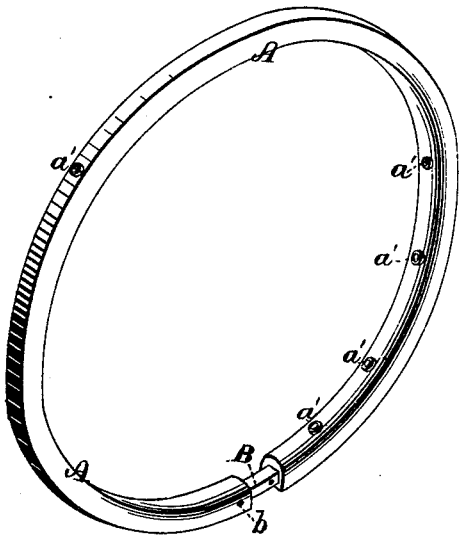


Fig. 2.

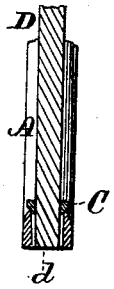
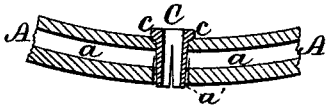


Fig. 3.

Fig. 4.



WITNESSES:

Jas. E. Hutchinson.

H. G. Hazard.

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UNITED STATES PATENT OFFICE.

EBENEZER DANFORD, OF GENEVA, ILLINOIS.

IMPROVEMENT IN CARRIAGE-WHEEL FELLIES.

Specification forming part of Letters Patent No. **183,647**, dated October 24, 1876; application filed August 9, 1876.

To all whom it may concern:

Be it known that I, E. DANFORD, of Geneva, in the county of Kane and in the State of Illinois, have invented certain new and useful Improvements in Fellies for Carriage-Wheels; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a perspective view of my improved felly, the ends being separated, so as to show the means employed for securing the same together. Fig. 2 is a longitudinal central section of a spoke, and of a thimble employed for securing the same within said felly. Fig. 3 is a transverse section of said felly; and Fig. 4 is a longitudinal central section of the same.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to increase the strength and durability of the felly of a carriage-wheel, and at the same time to decrease its weight; to which end it consists in a metal felly constructed hollow, and having transversely a plane periphery and a half-round inner face, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A represents a felly constructed of or from metal, with the transverse form shown in Fig. 3, its periphery being plane, and its sides and inner face formed upon a circular line, while extending longitudinally through its center is an opening, *a*, which corresponds in transverse shape to the like feature of its exterior. The felly A is preferably formed of one piece, and its abutting ends are connected together by means of a plug, B, which is secured permanently within one of the latter, and, extending into the opening in the opposite end, closely fills the same, and receives a pin or key, *b*, that is passed transversely through an opening provided in and through said felly, and through said plug. At equidistant points around the felly A are provided radial openings *a'*, which are round, and are slightly larger at their outer ends than at their inner ends. Within each opening *a'* is fitted a metal thimble, C, which has parallel sides, fills closely the inner end of such opening, and at its inner end is provided with a projecting flange, *c*, that bears upon the inner face of the felly, and prevents said thimble from passing farther into its said opening. The outer end of said thimble is flush with the periphery of said felly, and from said outer end nearly to said flange said thimble is split, as shown by Fig. 4. The thimble *c* is fitted closely to, and driven upon, the tenoned end of a wooden spoke, D, and is then placed in position within the opening *a'*, after which the outer end of said spoke is split, and a wedge (either wood or metal) driven firmly into the same, by which means both spokes and thimble are spread, and the latter is caused to closely fill the enlarged outer portion of said opening. A tire may now be shrunk upon the felly; or, if desired, the wheel may be used without tire; but in the latter case it would be necessary that sufficient force should be used to draw together the ends of said felly, and to give the desired dish to the wheels.

The felly described is strong, durable, not affected by moisture, and, having the same degree of expansion as the tire, there is less liability that the latter will become loosened during the extreme heat of summer.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

The tubular metal felly A, made hollow, and having transversely a plane periphery, and a half-round inner face, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of August, 1876.

E. DANFORD.

Witnesses:
P. F. WARD,
JOHN E. CLARK.