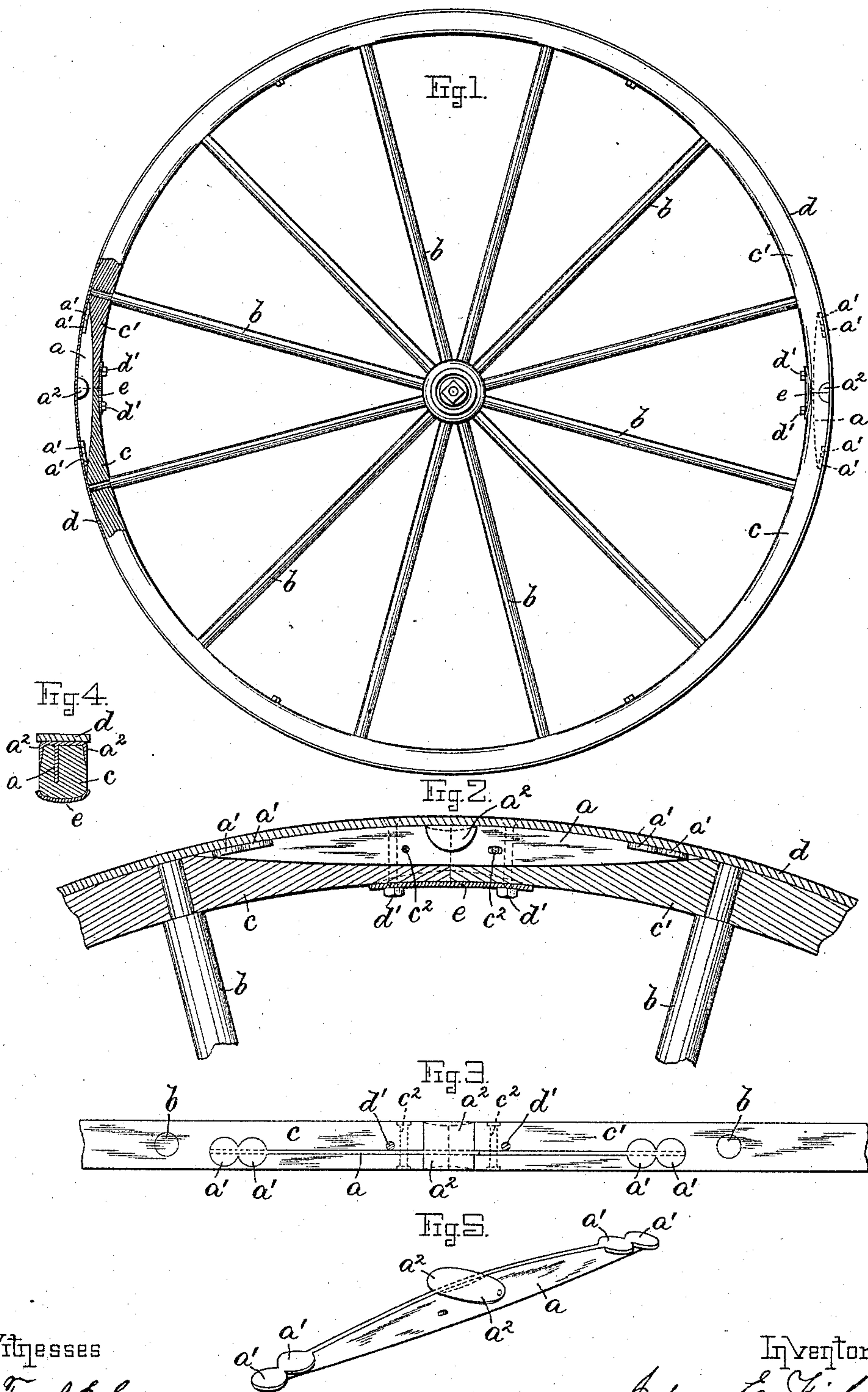


(No Model.)

J. E. FISHER.  
VEHICLE WHEEL.

No. 442,113.

Patented Dec. 9, 1890.



Witnesses

Frank E. Greenwood.  
M. H. Avery.

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his atty.



# UNITED STATES PATENT OFFICE.

JOHN E. FISHER, OF BOSTON, MASSACHUSETTS.

## VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 442,113, dated December 9, 1890.

Application filed July 31, 1890. Serial No. 360,480. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. FISHER, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Vehicle-Wheels, of which the following, taken in connection with the accompanying drawings, is a specification.

The invention relates to improvements on the vehicle-wheel for which Letters Patent of the United States were issued to me February 12, 1889, and numbered 397,711; and it consists in providing the truss in said Letters Patent with means whereby any liability of splitting the felly at the joint and spreading it sidewise is prevented and the wheel is kept in better shape. It is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a side elevation of a wheel provided with my improvements and showing a portion of the felly cut away so as to show the truss in position. Fig. 2 represents a longitudinal section of a portion of the rim of the wheel, showing the truss in side elevation. Fig. 3 represents a view of a portion of the outer circumference of the felly of the wheel, showing the truss and my attached improvement in position within the felly. Fig. 4 represents a cross-section of the rim of the wheel just at the side of the joint in the felly. Fig. 5 represents a perspective view of the supporting-truss for the wheel with my improvement attached thereto and showing the same before it has been applied to a wheel.

Similar letters refer to similar parts on the different parts of the drawings.

In constructing wheels in accordance with my original patent above mentioned it was found that although the supporting-truss prevented the felly and tire from flattening at the joints in the felly still there remained a liability of the felly splitting at that place and spreading whenever a side pressure was exerted on the felly on account of the depth of the longitudinal groove in the same for receiving the truss. The object of my present invention is to obviate this difficulty.

The truss  $a$  is provided with bearing-plates  $a' a'$  at each end, and is made in the form of a thin piece of metal adapted to enter the

longitudinal groove in the face of the felly to extend nearly, if not quite, the entire distance between two successive spokes  $b b$  in the wheel across the joint between the two sections  $c$  and  $c'$  of the felly, and to coincide on its outer face with the inner surface of the tire  $d$ , as was shown and described in the Letters Patent above referred to; also, the felly is to be provided with a clasp  $e$  and tire-bolts  $d' d'$ , passing through the tire, felly, and clasp, having nuts for clamping said parts together, as was shown in my original patent, and the wheel may also be provided with the bolts or rivets  $c^2 c^2$ , if so desired, which bolts pass through the felly from side to side and also through perforations in the truss, such bolts having been shown in Figs. 2 and 3, but not in the other parts of the drawings, and the use of such bolts will be entirely unnecessary when the truss is provided with my improvements, as described hereinafter.

To accomplish the object of my invention, I provide the truss  $a$  with the side projections  $a^2 a^2$ , as shown, one on each side of the truss, and at such positions on the same as to cover the joint in the felly, to extend a short distance on either side of the joint, and to cause their outer surface to coincide with the outer surface of the felly when they are placed within the recess in the felly. The projections  $a^2 a^2$ , which project straight out from the sides of the truss, as shown in Fig. 5, are sufficiently long to reach some distance beyond the sides of the felly when the truss is in position within the recess in the felly, and are adapted to be turned down at right angles over and against the sides of the felly, as shown in Fig. 4. It will be seen that when the projections  $a^2 a^2$  are in the position shown in Figs. 2, 3, and 4 they form a clamp on the ends of the sections  $c$  and  $c'$  of the felly, preventing them from splitting when the same is subjected to a side pressure, and also preventing them from spreading sidewise beyond the edge of the tire.

If so desired, the projections  $a^2 a^2$  might be wrought or cast in the shape shown in Fig. 4 and applied to the felly in that shape without departing from my invention; but I prefer to make them straight and to bend or turn them down on the sides of the felly after



they have been placed within the recess, as by so doing I am able to cause them to more firmly bind and press the felly together.

To apply my improved support to a wheel, the wheel is first recessed to receive the truss proper, also its bearing-plates. It is then provided with a cross-groove at the joint between the sections of the felly to receive the side projections on the truss. The truss is then placed within the recess thus formed in the felly, and the portions of the side projections which project beyond the sides of the felly are then hammered or bent down against the sides of the felly, as shown on the drawings, clamping the ends of the sections of the felly firmly together so as to prevent them from splitting.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

1. A support for the joint between the sections of the felly of a wheel, consisting of a truss having bearing-plates at its ends and

projections from the upper part of the sides of the truss, the bearing-plates and side projections adapted to be placed within the felly so as to rest against the inside surface of the tire of the wheel, and the side projections adapted to rest against and clamp the sides of the felly, substantially as and for the purpose set forth.

2. In a vehicle-wheel, a supporting-truss introduced within a recess in the face of the felly, extending across the joint between the sections of the felly, and side projections on the truss, projecting beyond the sides of the felly and adapted to be bent or turned down against the same, for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 28th day of July, A. D. 1890.

JOHN E. FISHER.

Witnesses:

HENRY CHADBURN,  
FRANK E. GREENWOOD.