

JACOB WOODBURN.

Improvement in Carriage Wheels.

No. 124,468.

Patented March 12, 1872.

Fig. 1.

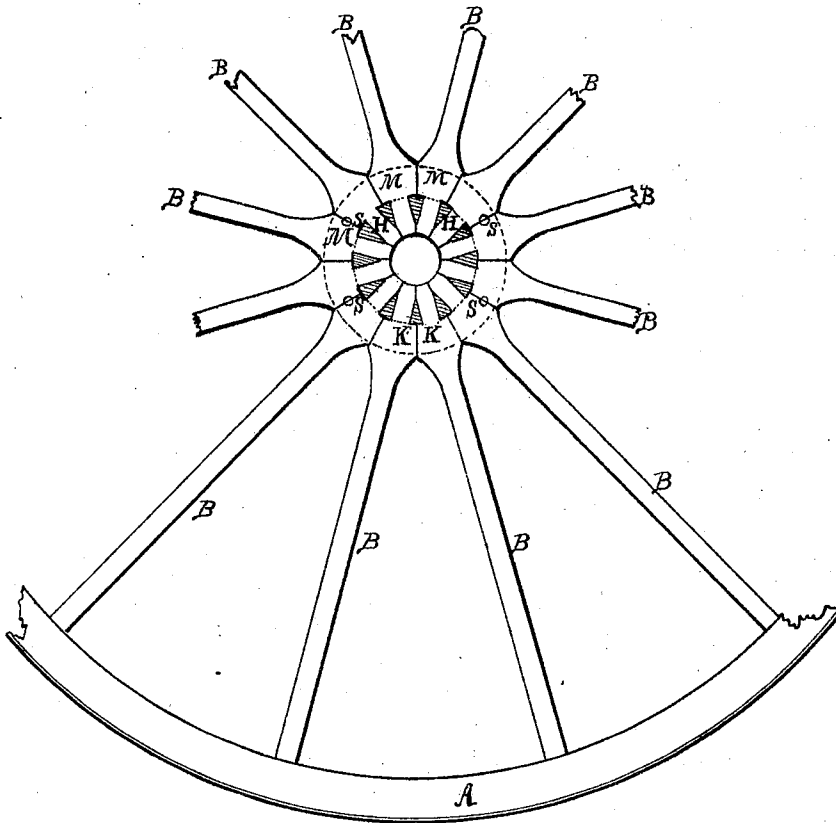


Fig. 2.

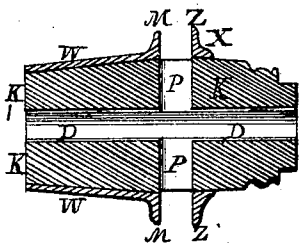


Fig. 3.

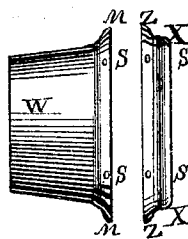
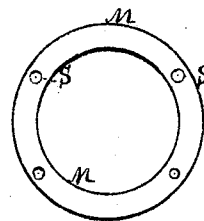


Fig. 4.



Attest.
O. M. Shury
J. Trovrig.

Inventor
Jacob Woodburn,
per Fisher & Fisher,
his attorneys.

UNITED STATES PATENT OFFICE.

JACOB WOODBURN, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WOODBURN SARVEN WHEEL COMPANY, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN CARRIAGE-WHEELS.

Specification forming part of Letters Patent No. 124,468, dated March 12, 1872.

I, JACOB WOODBURN, of the city of St. Louis, in the county of St. Louis and State of Missouri, have invented a certain new and useful Improvement in Carriage-Wheels, of which the following is a specification:

My invention relates to an extension of the base of a metal flange used to strengthen the hub of a carriage-wheel and to support the spokes thereof where they enter the hub. By this extension of the flange that portion of the hub over which the flange is extended is strengthened and the paint upon such portion of the hub preserved from cracking. The object of this invention is an improvement upon the flange described in the Letters Patent granted to James D. Sarven, June 9, 1857, for improvement in carriage-wheel. Said flange was subject to the defects already referred to, and which defects are corrected by the extension of the flange, as herein described.

In the accompanying drawing forming part of this specification, Figure I is a front elevation of a part of that variety of wheel to which my improved flange is applied, and a vertical section of the hub, to show how the spokes are inserted therein. The dotted lines indicate the face of the flange as applied to the spokes. Fig. II is a longitudinal vertical section through the center of a hub of that style to which my improved flange is applied, showing such flange fitted upon that portion of the hub which is in the rear of the spokes; also showing a narrow flange on the hub in front of the spokes. Fig. III is a side elevation of my improved flange, and of the narrow flange used with it. Fig. IV is an elevation of that end of my flange which is on the right hand in Fig. III.

General Description.

In that style of wheel to which my flange is to be ordinarily applied, and which is shown in the drawing, A is the felly. B B B, &c., are the spokes. H H, &c., are the tenons of the spokes fitting into the hub. K is the hub. M is the rim or that portion of my improved flange which fits against the spokes, while W is the extended base of the same. This base

extends from where the spokes meet to the rear end of the hub. Z is the rim or that portion of a narrow metallic flange which fits against the spokes, while X is the base of the same. D is the hole in the hub through which the axle passes. P P, &c., are the mortises in the hub. Each mortise admits and holds a tenon. Though only two mortises are shown at Fig. 2 of the drawing, there are as many mortises as there are spokes. (See Fig. 1.) The spokes just above the tenons and at the periphery of the hub expand into a shoulder. Each shoulder is so wide that, when the spokes are tenoned into the hub, the sides of these shoulders touch and mutually support each other in the vicinity of the hub. Any strain upon one spoke in the plane of the wheel is communicated to and in part borne by the other spokes, and thus the entire wheel is strengthened. The tenons H H are usually made nearly straight, and of about a uniform size from end to end. The narrow flange Z X is placed upon the front portion of the hub, so that the face of the rim Z comes flush against the front edge of each spoke. The flange M W, with extended base W, is placed upon the hub K, as shown in Fig. 2, and so that the rim M will be flush against the rear edge of each spoke. The tenons of the spokes are driven into the mortises P P, &c., so that the bottom of the shoulder of each spoke rests upon one-half of the periphery of the hub, between two adjacent mortises, and so that the sides of these shoulders touch and mutually support each other. (See Fig. 1.) The front and rear flanges are then bolted together, and hold the spokes firmly between them by means of bolts passing from the front flange Z through or between the spokes to the rear flange M, to which they are secured by some proper device, usually by rivets. These flanges greatly aid and strengthen the spokes to resist lateral strain, and relieve the tenons from such strain.

To protect the front portion of the hub, the base of the front flange Z may be extended in the same way as the base of the rear flange. It will be evident from an inspection of Fig. 2 that the extension W of the base of flange

M greatly strengthens the rear portions of the hub, and protects it from splitting and cracking, and from abrasion.

What I claim as new, and desire to secure by Letters Patent, is—

In combination with the flange M, provided with an extended base, W, the hub K, spokes B B, &c., constructed and tenoned into the

hub, substantially as described, and the narrow flange Z, substantially as and for the purposes specified.

JACOB WOODBURN.

Witnesses:

S. T. SMITH,

J. F. PRATT.