

(No Model.)

J. A. WOODWORTH.
VEHICLE RIM.

No. 563,901.

Patented July 14, 1896.

Fig. 1.

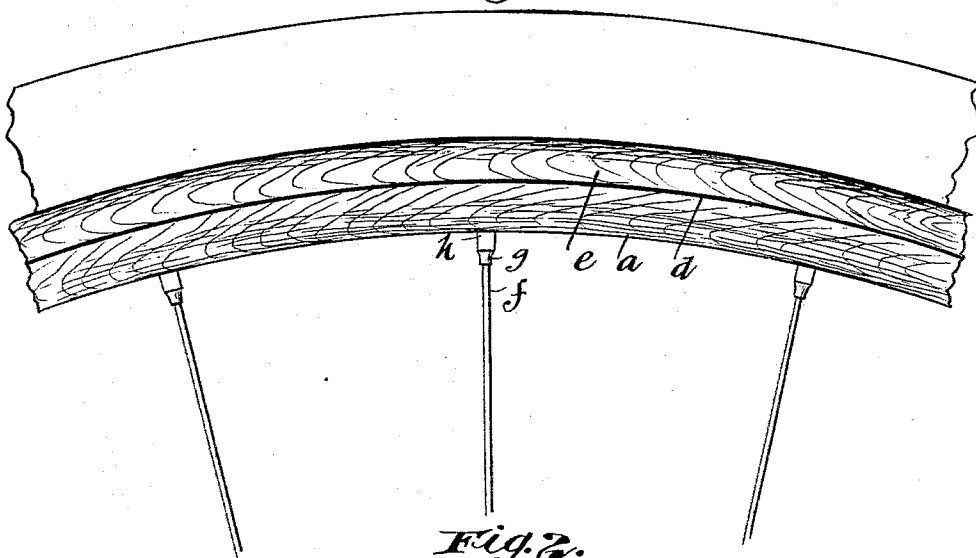


Fig. 2.

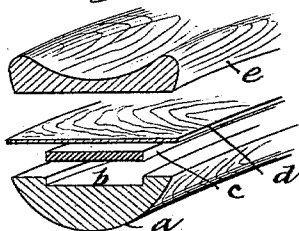


Fig. 3.

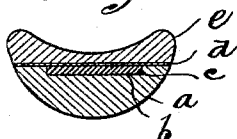
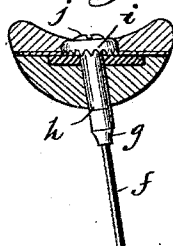


Fig. 4.



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JOHN A. WOODWORTH, OF CHICAGO, ILLINOIS.

VEHICLE-RIM.

SPECIFICATION forming part of Letters Patent No. 563,901, dated July 14, 1896.

Application filed April 3, 1896. Serial No. 586,043. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WOODWORTH, of Chicago, Illinois, have invented certain new and useful Improvements in Vehicle-Rims, of which the following is a specification.

This invention relates to certain improvements in the construction of the rims of vehicle-wheels, and more particularly to a compound rim for a bicycle-wheel.

The object of the invention is to strengthen the rim, prevent its splitting or warping, and enhance its appearance.

In the accompanying drawings, Figure 1 is a broken side elevation showing a section of the rim with spokes and tire applied thereto. Fig. 2 is a perspective view showing the component parts of the rim separated from each other, but in the same relation in which they are built up. Fig. 3 is a transverse section through the rim; and Fig. 4 is a similar view showing a nipple, spoke-socket, spoke, and washer in side elevation.

In carrying out my invention I make the rim of four parts. The base *a* is made of a strip of tough wood, such as rock elm or maple. This base is turned off on its lower side, and preferably grooved on its upper face, as at *b*. Within this groove is fitted a strip of material *c*, such as indurated fiber, rawhide, or other tough substance which will not split, crack, or warp. This strip *c* is preferably of a thickness equal to the depth of the groove, so that its upper surface lies flush with the plane of the outside of the base *a*. Over this flush surface I then place a strip of wood veneer, preferably of black walnut, the wood veneer *d* having the grain running preferably at right angles or across the grain of the base portion *a*. This strip *d* is preferably of the extreme width of the rim in its widest point and its edges or side margins show in the completed structure, as indicated in Fig. 1. Upon this is placed the outer layer *e*, which is made of some tough wood, such as ash, elm, or maple, and the grain of which will run lengthwise of the strip or around the rim. This piece *e* is concave in its upper surface to receive the tire. The several parts may be united with glue, but it is not necessary that the strip *c* be glued in, although it should at least have its ends secured or squarely abutted.

The functions of the several parts of this rim will be well understood by persons familiar with the art, but I may say that the indurated fiber or other tough strip is preferably inclosed in the groove and of less width than the base portion of the rim, so that its edge may be protected from moisture, these materials being waterproof so long as the edges are protected. The strip *b*, having its grain running at right angles to the strips *a* and *e*, prevents warping and enhances the appearance of the rim, since the margins of such strips give a distinct line of color.

In Fig. 4 I have shown a common method of applying a spoke to a rim of this character, in which *f* represents the spoke, usually constructed of a wire rod; *g*, the nipple; *h*, the spoke-socket, and *i* the washer. An aperture is formed through the rim radially to its axis and the outer portion of the rim is countersunk at the upper end of this aperture to receive the washer *i*, the socket *h* being inserted through the body of the aperture and the nipple *g* passed therethrough and provided with a tightening-screw *j*, as usual.

Now it will be seen that the spoke-fastening passing through the four parts of which the rim is composed, the washer will preferably have the extremity of its usual projection resting upon the fiber itself, and the latter having no grain or line of easy cleavage will prevent the splitting of the parts and the pulling through of the nipple-washer. The intermediate layer or strip *b* might be omitted and the outer portion *e* secured directly over the strip *c* and upon the base-piece, but such construction is not so good as that shown, for the reason that it lacks inherent strength of veneer, due to the crossing of the grains of a plurality of layers.

It will be understood, of course, that my invention is not limited to the specific materials, except as noted in the claims, and that the precise construction and arrangement of parts may be also varied within the same limits.

I claim—

1. A vehicle-rim composed of two strips of wood bent to form and concentric with each other and an interposed layer of tough material, such as leather or indurated fiber, of less width than the exterior layers and lo-

cated centrally of the rim, substantially as described.

2. A composite rim for vehicle-wheels composed of two strips of wood bent to form and
5 concentrically arranged with reference to each other and forming the external portions of the rim, an intermediate strip of wood of a width equal to the opposing faces of the external layers and secured to such faces and
10 a strip of tougher material of less width and arranged centrally of the rim and inclosed by the constituent parts thereof, substantially as described.

3. A composite rim for vehicle-wheels composed of a base portion having a circumfer-

ential groove in its periphery, a strip of tough material, such as indurated fiber or leather, located in said groove along the central line of the rim, a strip of material covering said tough strip and extending to the margins of
20 the base and an outer portion covering said strip and adapted to receive a tire and said interposed wooden strip having its grain arranged to cross that of the exterior layers, substantially as described.

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