

(No Model.)

C. A. GREENLEAF.
WOOD RIM FOR VEHICLE WHEELS.

No. 546,764.

Patented Sept. 24, 1895.

Fig. 1.

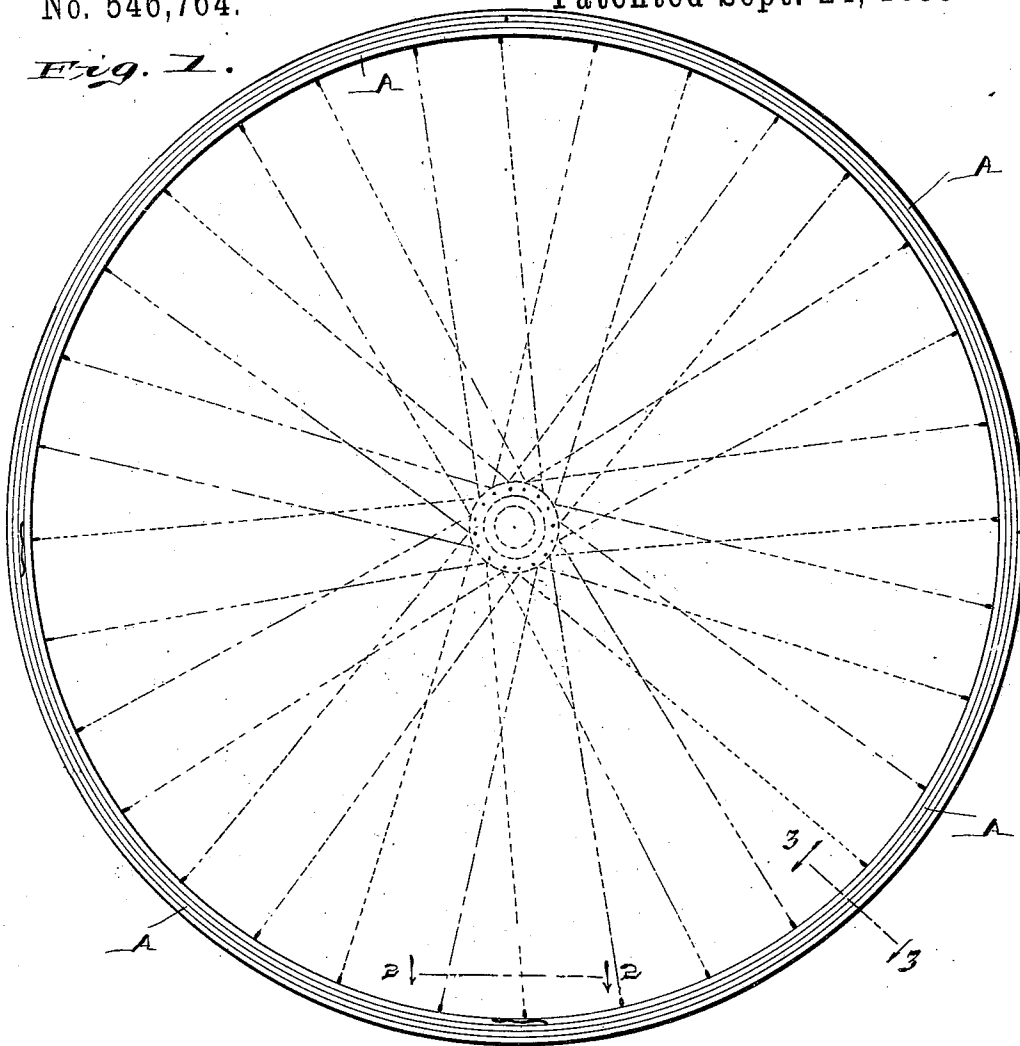


Fig. 2.

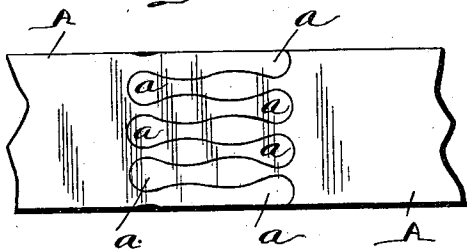
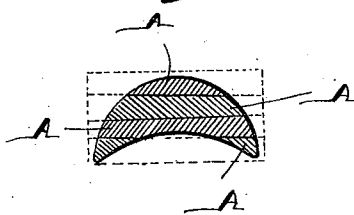


Fig. 3.



WITNESSES:

H. S. Neely
J. A. Walsh

INVENTOR

Clements A. Greenleaf,

BY
Chester Bradford,
ATTORNEY.

UNITED STATES PATENT OFFICE

CLEMENTS A. GREENLEAF, OF GREENCASTLE, ASSIGNOR TO GREENLEAF & WOOD, OF INDIANAPOLIS, INDIANA.

WOOD RIM FOR VEHICLE-WHEELS.

SPECIFICATION forming part of Letters Patent No. 546,764, dated September 24, 1895.

Application filed June 22, 1895. Serial No. 553,706. (No model.)

To all whom it may concern:

Be it known that I, CLEMENTS A. GREENLEAF, a citizen of the United States, residing at Greencastle, in the county of Putnam and State of Indiana, have invented certain new and useful Improvements in Wood Rims for Vehicle-Wheels, of which the following is a specification.

The object of my said invention is to improve the character of that class of wooden rims or fellies for vehicle-wheels which are used with pneumatic or cushion tires and are most generally employed in bicycles.

It consists in a peculiar formation and uniting of the parts in building up such rims, whereby a minimum of strain upon the wood is secured with a maximum of strength.

Said invention will be first fully described, and the novel features thereof then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a side elevation of a wheel the rim whereof is formed in accordance with the preferred form of my said invention; Fig. 2, a fragmentary plan view, as seen from the dotted line 2 2 in Fig. 1, showing the form of the ends of the parts where they are united in building up the rim; and Fig. 3, a transverse sectional view on the dotted line 3 3 in Fig. 1, showing the cross-sectional form of the parts of which the rim is built up. Figs. 2 and 3 are on a scale substantially the ordinary full size of the parts, while Fig. 1 is considerably reduced.

The wheel rim, as shown in the drawings, is preferably built up of four rings formed from separate layers or thicknesses of wood, each of which is independently united at its ends by interlacing fingers of a peculiar form, as shown most plainly in Fig. 2, and each of which is also tapered somewhat in cross-section, or made wedge-shaped, as shown in Fig. 3. The layers of wood A are first formed and cut to the required lengths and the fingers a formed on the ends, which fingers have curved outlines, producing intermeshing enlargements and depressions, as shown, so that the ends when united thereby cannot be parted by endwise strain. This form of fingers is superior to straight fingers, for the reason that

the rims or rings formed in this manner cannot be so parted, and is superior to the ordinary dovetailed form, because there are no sharp corners or points where the wood is likely to be broken or split. Each strip or layer of which the rim is composed (in the preferred form shown) is of a different length, so that the resulting rings just fit inside or outside each other, and in assembling the rings, which are first formed from such strips or layers, the connected ends are disposed at different points, so that only one fraction of the rim shall be jointed at any one point. The strips or layers of which these rings are composed are cut of such length as that they fit closely together when assembled; but as it is impossible to secure an absolutely tight joint without some fitting I make them, as above stated, somewhat tapered or wedge-shaped in cross-section, and as they are assembled they are driven to final position by striking upon the thicker or wider edges on each side. This, as will be readily understood, forces the various rings so tightly together that the joints between them are inappreciable, and the surfaces having first been glued or leaded the result is a substantially integral structure. The superiority of a rim so formed will be readily understood. The grain of the wood of which the rings are composed will run more or less in different directions, and so the grain of the several rings will to some extent cross each other, rendering the rims, when completed, more difficult to split longitudinally. The thin layers of which the rings are composed are more easily bent than if the rim was formed of a single ring, and there is thus less strain upon the fiber of the wood in the process of bending. The end joints are formed at as many different points as there are rings in the rim, and thus all danger of separation by any force less than enough to totally break and destroy the rim is avoided. Notwithstanding the employment of several rings in forming the rims, they are, by reason of the wedge-shaped transverse formation, still enabled to be forced closely together, so that there shall be no appreciable space in the joints. As a whole this rim possesses considerably greater strength than a similar rim of corresponding size made of a single piece.

While I have shown and described a wheel-

rim made up of several layers, and while I believe such a rim to be superior in many respects to a solid or one-piece rim, my improved joint, formed of intermeshing fingers with rounded ends and enlargements and depressions fitting into each other, which is a leading feature of my invention, can be equally well applied to such solid or one-piece rims, and when so applied is equally within the scope of said invention.

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

1. A wooden rim for vehicle wheels composed of several layers or rings wedge-shaped in cross section from one edge to the other, whereby close union of the parts can be effected, substantially as set forth.

2. A wooden rim for vehicle wheels composed of several layers or rings, wedge-shaped in cross section, or thicker at one edge than the other, and tapering regularly from the thicker to the thinner edge, with the thick and thin edges arranged alternatively, the thick edge of one layer being on the same

edge of the rim as the thin edge of the adjacent layer, substantially as shown and described.

3. A wooden rim for vehicle wheels composed of several layers or rings, each ring being united where the ends of the wood composing it come together by interlacing fingers having curved sides and ends, substantially as shown and described.

4. A wooden rim for vehicle wheels having the ends of the wood of which it is composed formed in fingers, said fingers being rounded at the ends and between them, and having bulbs or enlargements thereon which fit into corresponding depressions or cavities on the adjacent fingers, substantially as shown and described.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 20th day of June, A. D. 1895.

CLEMENTS A. GREENLEAF. [L. S.]

Witnesses:

CHESTER BRADFORD,
JAMES A. WALSH.