(No Model.)

J. A. DANN.

WHEEL RIM.

No. 555,306. Patented Feb. 25, 1896.

Fig. 1.

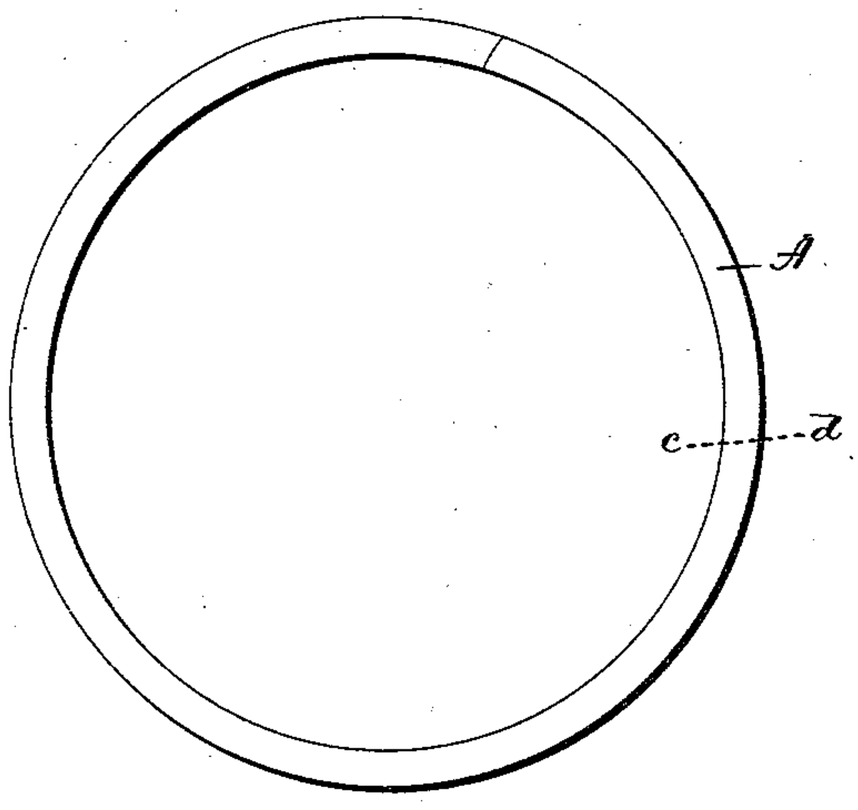


Fig. 2.

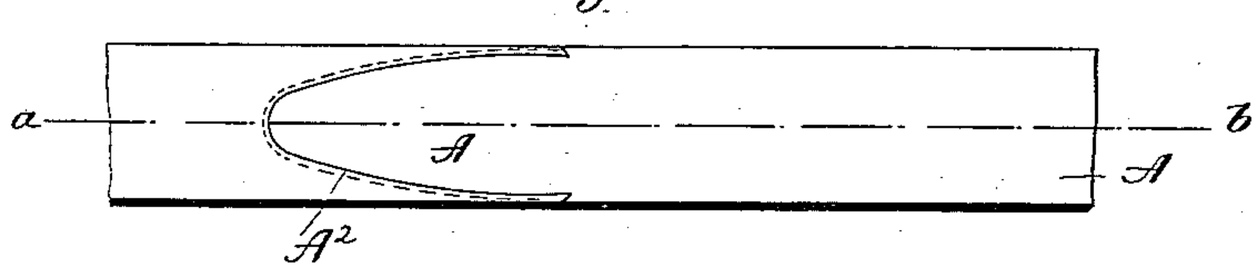


Fig. 3.

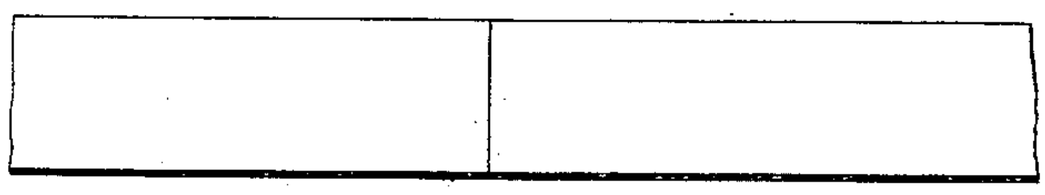


Fig. 4.

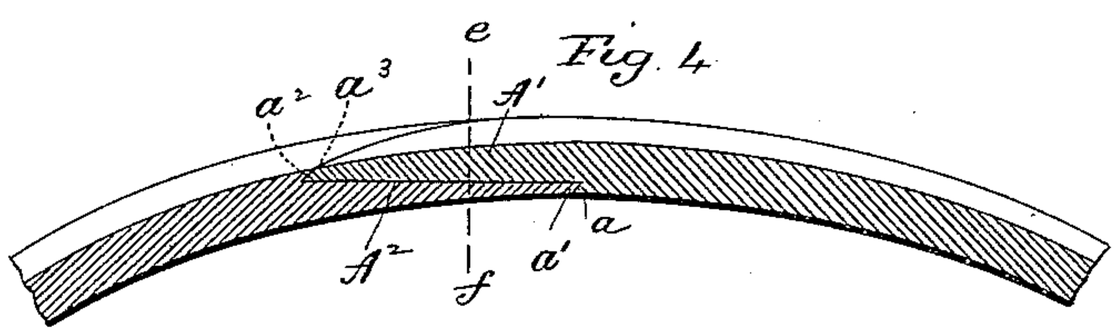


Fig. 5.

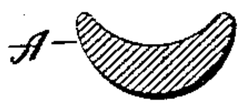
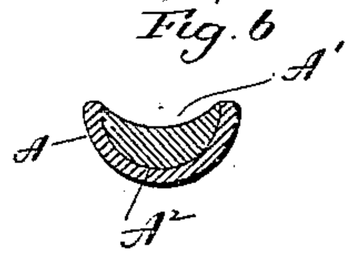


Fig. 6.



Witnesses,
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A. S. Hotchkiss.

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Inventor.
By attys
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UNITED STATES PATENT OFFICE.

JOHN A. DANN, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE DANN BROS. & COMPANY, OF SAME PLACE.

WHEEL-RIM.

SPECIFICATION forming part of Letters Patent No. 555,306, dated February 25, 1896.

Application filed March 14, 1895. Serial No. 541,750. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. DANN, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Wheel-Rims; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of a wheel-rim constructed in accordance with my invention; Fig. 2, an enlarged broken plan view showing the joint of the said rim; Fig. 3, a corresponding reverse plan view of the joint; Fig. 4, a view of the joint in central longitudinal section on the line *a b* of Fig. 2; Fig. 5, a view of the rim in cross-section on the line *c d* of Fig. 1; Fig. 6, a view in transverse section through the joint on the line *e f* of Fig. 4.

My invention relates to an improvement in wooden rims for that class of wheels which are provided with pneumatic tires, and chiefly used on bicycles, the object being to produce at a comparatively low cost for manufacture a simple, strong and durable rim composed of a single piece of wood.

With these ends in view my invention consists in a wheel-rim having certain details of construction, as will be hereinafter described and pointed out in the claims.

In carrying out my invention I employ a concavo-convex strip A, of suitable tough wood, such as hickory, elm, or the second growth of ash. The particular form of this strip in cross-section will vary according to the character of the wood employed, and also according to the character of the pneumatic tire which is to be placed in the concave exterior face of the rim. One end of the strip is formed with a single spoon-like tongue A′, tapering both in thickness and width from its inner to its outer end, its greatest thickness, which is at its base, being less than the thickest part of the rim in cross-section, and its greatest width, which is also at its base, being less than the greatest width of the rim in cross-section. The other end of the strip is constructed with a groove A^2, which corresponds in all of its dimensions to the dimensions of the tongue A′ before mentioned, the open outer end of the groove being the thickest and widest, the groove thence tapering in both dimensions toward its inner end. I should also mention that the tongue A′ is concavo-convex in cross-section, its concave outer face conforming to the curvature of the concave outer face of the rim, and its convex inner face conforming in curvature to the bottom of the groove A^2, so that when the tongue A′ is in place in the groove A^2 the concave outer face of the rim will be continuous.

The concave inner face of that end of the strip on which the tongue is located is preferably cut away to form a shoulder *a*, as shown in Fig. 4, and against this shoulder the edge *a′* of the grooved end of the strip is abutted, and by preference the shoulder is undercut and the end of the strip correspondingly beveled, as shown in the said figure, although this is not necessary.

I may, if preferred, form a transverse shoulder a^2 at the extreme inner end of the recess A^2, the contour of which it follows, and adapt the end of the tongue, as at a^3, to abut against the said shoulder a^2, as also shown in Fig. 4. I do not, however, limit myself to forming the shoulder a^2 to provide an abutment for the outer end of the tongue A′.

By reference to Fig. 2 it will be seen that the line on which the tongued end of the strip fits into the grooved end thereof lies entirely within the outer face of the rim, and will be covered and protected by the pneumatic tire, and that the exposed line of juncture, where the grooved end of the rim abuts against the shoulder of the other end of the rim, extends transversely across the inner face of the rim, as shown in Fig. 3, and is therefore the shortest possible line of juncture conceivable. In my improved rim, therefore, the least possible opportunity is given to the moisture to work into the joint. Furthermore, as I employ only one tongue, I avoid cutting or sliver-ing the wood and secure great strength and at the same time a large uniting-surface.

I would also call attention to the fact that on account of the peculiar form of the tongue and groove of my improved joint they virtu-

ally constitute a lock for holding the ends of the rim from being laterally displaced or twisted apart.

I am aware that it is old to make wooden rims from a single strip of wood, and also that lap-joints are old in rims of this class. I am further aware that jointed rims of concavo-convex cross-section are old. I do not, therefore, claim either of those constructions broadly, but only my particular construction.

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

1. A wooden rim for pneumatic-tired vehicle-wheels, the said rim being composed of a single long strip of wood concavo-convex in cross-section, having one of its ends constructed with a single, broad, concavo-convex, spoon-like, integral tongue, extending beyond the said end, gradually decreasing in width and thickness from its inner end or base to its outer end, and the other end of the said strip being constructed with a single, concave groove setting below the concave outer face of the rim-strip, gradually decreasing in width and depth from its outer end inward, and corresponding in shape to the shape of the said tongue, which, when it is in place in the groove lies entirely within the edges of the finished rim with its concave outer face concentric with the concave outer face thereof, and the tongued end of the strip having an exterior transverse shoulder formed at the base of the tongue, and the grooved end of the strip being adapted to abut against the said shoulder, substantially as described.

2. A wooden rim for pneumatic-tired vehicle-wheels, the said rim being composed of a single, long strip of wood, concavo-convex in cross-section, having one of its ends constructed with a single, broad, concavo-convex, spoon-like, projecting, integral tongue, gradually decreasing in width and thickness from its inner end or base to its outer end, and the other end of the strip being constructed with a single, concave groove setting below the concave outer face of the rim-strip, gradually decreasing in depth and width from its outer end inward, and corresponding in shape to the shape of the tongue, which, when it is in place in the groove, lies entirely within the edges of the finished rim with its concave outer face concentric with the concave outer face thereof, and the tongued end of the strip having a transverse shoulder formed at the base of the tongue against which the grooved end of the rim-strip abuts, and the grooved end of the strip having a shoulder located at the inner end of the groove, and adapted to form an abutment for the extreme end of the tongue, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN A. DANN.

Witnesses:
J. H. SHUMWAY,
FRED C. EARLE.