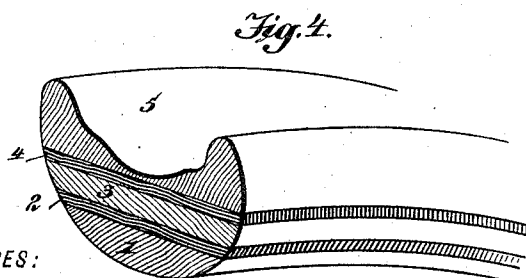
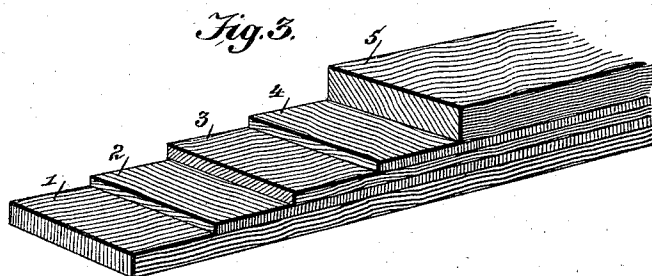
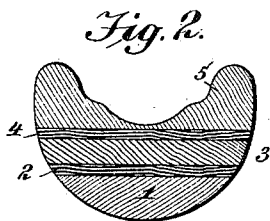
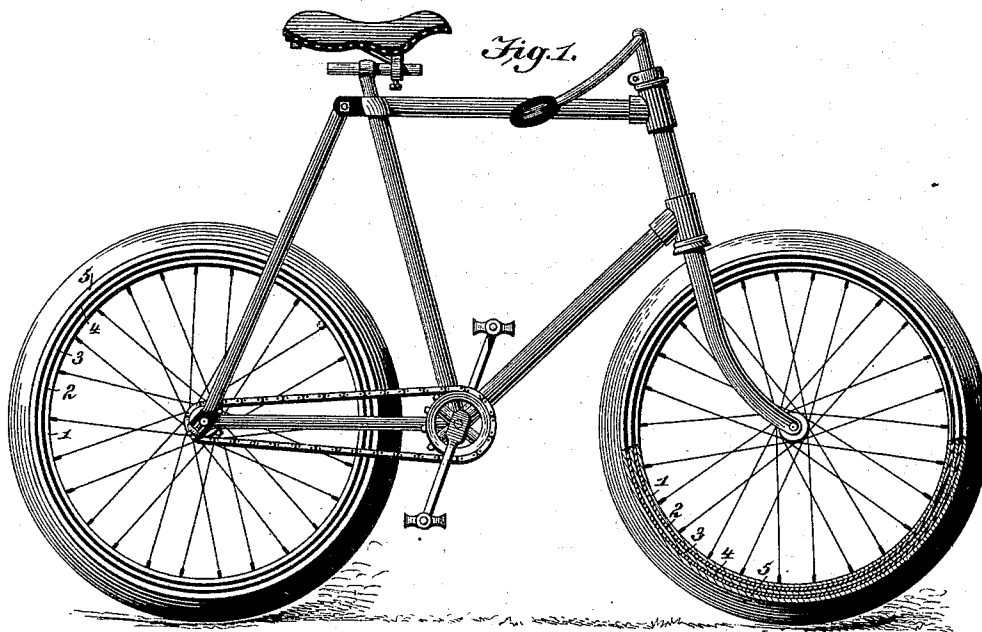


(No Model.)

J. H. KYDD & J. B. MITCHEL.
WHEEL RIM.

No. 585,388.

Patented June 29, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN HOGG KYDD AND JOHN BERNARD MITCHEL, OF BOWMANVILLE,
CANADA.

WHEEL-RIM.

SPECIFICATION forming part of Letters Patent No. 585,388, dated June 29, 1897.

Application filed April 9, 1896. Serial No. 586,847. (No model.) Patented in Canada April 14, 1896, No. 51,971.

To all whom it may concern:

Be it known that we, JOHN HOGG KYDD and JOHN BERNARD MITCHEL, subjects of the Queen of Great Britain, residing at Bowmanville, in the county of Durham, Province of Ontario, and Dominion of Canada, have invented a new and Improved Wheel-Rim, (which has been patented to us in Canada under date of April 14, 1896, No. 51,971,) of which the following is a specification.

This invention relates to rims for wheels which are to be provided with pneumatic or other rubber tires, such wheels being specially adapted to bicycles and other velocipedes, sulkies, &c., and is in the nature of a new and improved composite rim for such tires.

The object of the invention is to furnish a composite rim for such wheels which shall be elegant and artistic in appearance, light and graceful, and strong, cheap, and durable.

With this object in view our invention consists in the improved composite rim for rubber-tired wheels set forth in the following description and particularly pointed out in the appended claim.

In order that the invention may be readily understood by those skilled in the art, we will now proceed to fully describe the best method and means now known to us for carrying it out, which are fully illustrated in the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view of a bicycle fitted with wheels provided with rims made in accordance with our invention, in which the front wheel is shown partly in section. Fig. 2 is a transverse section through a completed rim. Fig. 3 is a detail view showing the number of pieces of wood used in the rim, their relative positions and their approximate thicknesses. Fig. 4 is a detail fragmentary perspective view of a portion of a completed rim.

Like letters mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by numerals, 1 is a strip of some compact, hard, and tough wood, such as rock-elm. 2 is a thin veneer of some strong dark wood, such as walnut and cherry. 3 is a strip of slightly less thickness

than strip 1 and of maple. 4 is a veneer of the same wood as strip 2, and 5 is a strip of the same wood as strip 1 and of greater thickness.

Our method of making a rim of these strips and veneers is to first take the strip of wood maple of which layer 2 is made, without regard to its length, use it as the base or body of a composite strip of wood of which we propose to make a middle composite layer for the rim. To this strip we cement in any preferred way two thin sheets of veneer, as 2 and 4, of a dark contrasting colored wood, such as walnut or cherry, with the grains of the veneers 2 and 4 running transversely or crosswise of the longitudinal grain of the maple strip. We now have three strips ready to build up a rim—viz., strips 1 and 5 of rock-elm or similar wood and the composite strip consisting of the maple strip 3 with inner and outer veneers 2 and 4. These strips are built up in the order named—viz., strip 1 to form the inner layer of the rim, the composite strip to form the middle layer, and strip 5 to form the outer layer of the finished rim.

The building up the rim may be from without inward, or the reverse. In the first-named plan the strip 5 is coiled or curved in a mold or form, its ends being chamfered off to form the joint and properly cemented together. The composite strip is coiled within it, the ends having been similarly chamfered and cemented together to form the joint, a coating of cement having been laid on the inside of the jointed strip 5, and the joints of that strip and the composite strip being placed at different points in the circle, and finally a coating of cement is laid inside of the composite layer, and the inner strip, properly jointed, is laid within it, the joint being placed so as to not register with the joint of either of the other layers. In this position they are properly submitted to pressure to cause the layers to adhere to each other and form a substantially solid rim in which there will be an outer layer of sufficient thickness to permit the tire-groove to be entirely within it, and not extending through it. The reverse method would be to build up from within outward, using a mandrel. Either plan can be pursued, many manufacturers prefer-

ring the first for the reason that the spring of the wood assists materially in keeping the inner layers against the outer, thus facilitating the operation.

5 The outer layer may be grooved before or after building up the rim, but the rest of the finish of the rim is preferably given to it after it is built up, thus dressing and polishing the finished rim, which, on account of the contrast of the colors of the layers, may be given
10 a natural-wood finish and present an elegant appearance, no staining, painting, or enameling being necessary.

We are aware that rims have been heretofore made composed of alternate strips of wood and layers of vulcanized fiber or similar material, but a rim so constructed is dead—that is to say, not springy and elastic. It has also been found that a single cross-
15 veneer will not prevent the layers of which the rim is composed from warping. The employment of two cross-veneers, one at either side of the middle strip, in the manner herein described, prevents both splitting and warping, and at the same time the rim possesses
25

all the advantages of lightness, elasticity, and durability found in an all-wood construction.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is— 30

A rim for rubber-tired wheels consisting of three layers, properly jointed and cemented together, the middle layer consisting of a strip of lengthwise-grained wood faced on its inner and outer sides with a thin sheet of veneer
35 with their grain lying transversely to the enclosed strip, and the inner and outer layers consisting of single strips of lengthwise-grained wood, the inner layer being thicker than the central strip of the middle layer, 40 and the outer layer thicker than the inner layer, said layers being properly cemented and pressed together and provided in their outer periphery with a circumferential groove for the tire, all substantially as set forth.

JOHN HOGG KYDD.

JOHN BERNARD MITCHEL.

Witnesses:

JOHN MCDUGALL,

FRANK KYDD.