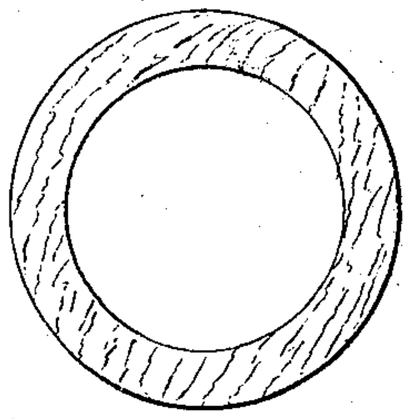
C. W. SALADEE.

Wooden Washers for Vehicle-Axles, &c.

No. 148,506. Patented March 10, 1874.



WITNESSES:

Heron. Lawton.
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CYRUS W. SALADEE, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN WOODEN WASHERS FOR VEHICLE-AXLES, &c.

Specification forming part of Letters Patent No. **148,506**, dated March 10, 1874; application filed November 28, 1873.

To all whom it may concern:

Be it known that I, CYRUS W. SALADEE, of Pittsburg, in the State of Pennsylvania, have invented an Improvement in Washers Made of Wood for Carriage-Axles and other like purposes, of which the following is a specification embodying my invention:

It is a well-known fact that the end of the grain of almost any species of wood is very durable under friction when lubricated and in contact with any of the metals. The object of my invention, therefore, is to produce a washer cut with the grain of the wood, so that the end of the grain only is in contact with the friction-surface of the box and shoulder of the axle. I do this by first procuring plank of the required thickness, and then, by means of a fine saw, or gang of saws, cut strips, in thickness as desired for the various sizes of washers, across the end and grain of the plank. These strips are then passed under a punch and the washers cut out, or by any other of the well-known methods for doing work of this character. Washers so made from the end of the wood are very easily fractured by lateral strain, to prevent which, as far as possible, they are chemically prepared by impregnating the pores of the wood with any suitable substance that will impart toughness and elasticity to the washer.

The process I am now employing for this purpose is as follows, though other and better methods and substances may be used; but this feature is no part of the invention: When the washers are cut out of the wood, as already described, they are thrown into a boiling solution of glue, lime, and salt, where they are left for the space of one hour, when they are withdrawn and placed in an oven, under a mild heat, to dry. When thoroughly dry, they are next passed through a solution of melted bees-wax, tallow, and black lead.

It is not absolutely necessary, in all cases, to prepare the wood for the protection of the grain against lateral strain, as herein described, but this is necessary only when light and porous wood is used. If it is found best to cut the washers (with the grain as already described) from hard and close-grained wood—such as box-wood, apple, thorn, dogwood, &c.—it will be unnecessary to treat them with anything further than to be immersed in boiled linseed-oil; and when made from some of the above woods no treatment at all will be required.

I am aware that wood cut across the grain has been used in bearings for machinery, presenting the end of the grain to the wear and friction of the shaft; also, that wood so cut and chemically treated has been used in the manufacture of pavements and the like; also, that washers have been made from wood veneer, all of which is no part of my invention.

I claim as my invention—

A wooden washer for carriage-axles and the like, with the ends of the grain of the wood presented on the sides of the washer as the wearing and friction surface, substantially as and for the purpose set forth.

CYRUS W. SALADEE.

Witnesses:

HERM. LAUTEN,

W. HUTCHINSON.