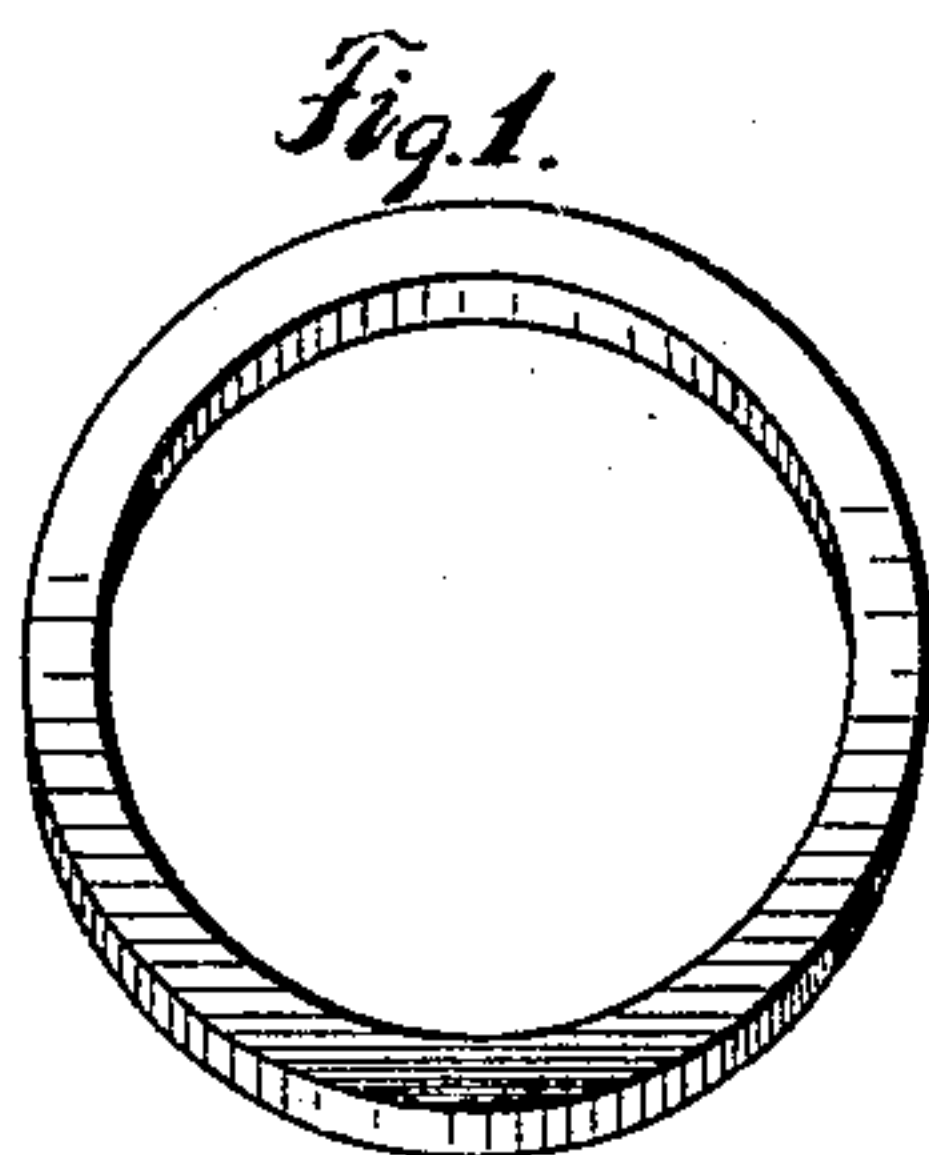


G. ASPINWALL & F. C. CLARK.
Axletree-Washers.

No. 204,700.

Patented June 11, 1878.



Witnesses:
Robt. F. Gaylord,
M. J. Dooley

Inventors:
Geo. Aspinwall,
F. C. Clark,
By W. E. Simonds
Atty

UNITED STATES PATENT OFFICE.

GEORGE ASPINWALL AND FAYETTE C. CLARK, OF HARTFORD, CONN.

IMPROVEMENT IN AXLE-TREE WASHERS.

Specification forming part of Letters Patent No. **204,700**, dated June 11, 1878; application filed September 27, 1877.

To all whom it may concern:

Be it known that we, GEORGE ASPINWALL and FAYETTE C. CLARK, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to Axle-Tree Washers, of which the following is a specification, reference being had to the accompanying drawing, which is a view of an axle-tree washer prepared in accordance with our invention.

Almost all vehicles require and have washers of leather or other suitable material on the axles and next the hubs of the wheels, in order to keep the wheel from having unnecessary lateral motion on the axle. The material most commonly used for making such washers is common leather. In some cases, to get greater durability, rawhide has been used, and we believe other materials have been used; but leather—common sole-leather—remains as the material most commonly used.

The objections to leather are notorious, to wit: First, it is soft, and therefore not durable; second, it is permeable by oils and grease used on axles as lubricants, so that its durability is less than it would otherwise be; third, it wears rough by use, and for this reason the longer it is used the less useful it becomes.

Our invention is a new article of manufacture—to wit, an axle-tree washer made of leather and saturated with bayberry-tallow.

The advantages attained are: First, the bayberry-tallow indurates the leather and makes it so hard that the washer lasts many times longer than the washer of common leather; second, the washer thus prepared is not permeable by oils or grease, which must necessarily be used on axles, and for this reason is not open to the objection above stated as applicable to common leather; third, the washer thus prepared wears smooth by use, and is not open to the third objection hereinbefore stated as applicable to washers made of common leather; fourth, the bayberry-tallow is itself a lubricant, so that the washers prepared therewith do not need such amounts of oil used therewith as do the washers of common leather, and if the axle is not properly lubricated our improved washer cures the difficulty to some extent.

The bayberry-tallow is applied by heating it and then immersing the washers.

We claim as our invention —

As a new article of manufacture, an axle-tree washer made of leather and saturated with bayberry-tallow.

GEO. ASPINWALL.
FAYETTE C. CLARK.

Witnesses:

WM. E. SIMONDS,
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