

T. R. TIMBY.

Car Axles.

No. 136,791.

Patented March 11, 1873.

FIG. 1.

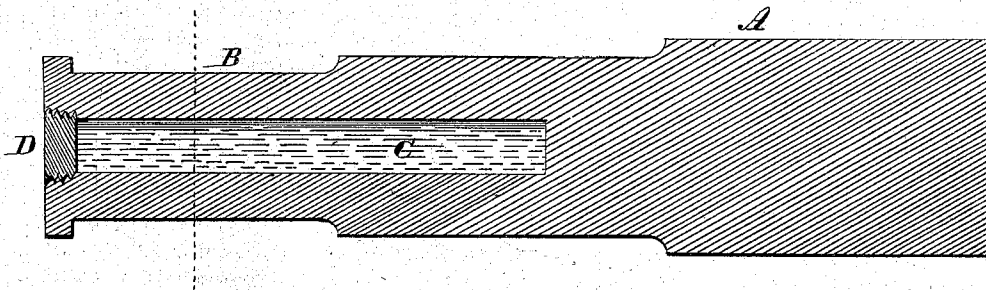


FIG. 2.

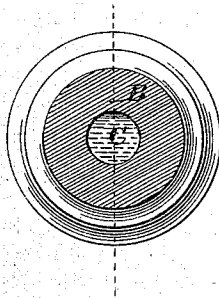


FIG. 3.



Witnesses

Geo. L. Egan
Walter Allen

Inventor.

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Atty.

UNITED STATES PATENT OFFICE.

THEODORE R. TIMBY, OF TARRYTOWN, NEW YORK.

IMPROVEMENT IN CAR-AXLES.

Specification forming part of Letters Patent No. 136,791, dated March 11, 1873.

To all whom it may concern:

Be it known that I, THEODORE R. TIMBY, of Tarrytown, in the county of Westchester and State of New York, have invented certain Improvements in Axles for Railway Cars, of which the following is a specification:

Nature and Objects of the Invention.

My invention consists in forming chambers within the journals of railway cars, and extending to a greater or less distance from the ends, or through the entire length of the axle, if preferred. Such chamber or chambers being supplied with water or other liquid and tightly closed, the contained liquid will prevent any injurious heating of the journals by absorbing and distributing the heat as fast as it may be generated.

General Description.

Figure 1 is a longitudinal section of one end of a railway-car axle illustrating my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a longitudinal section of an entire axle on a smaller scale, showing the liquid chamber passing completely through it.

The body of the axle A and the journals B may be of customary form. C represents a central longitudinal chamber, formed by boring or otherwise within each journal, and tightly closed at the ends by plugs D, which I prefer to construct in the form of tapered screws, of copper or other metal. By making them of copper or brass, which expand more than iron under the influence of heat, I avoid all danger of their becoming loose by the expansion of the annular journals. The taper form of the plugs adapts them to be screwed in with any necessary force, so as to hermetically seal the chambers.

I propose to fill, or partially fill, the chambers with water or any other liquid that may be found preferable. This liquid, by absorbing

and distributing any heat that may be imparted to the journal by its rotation, prevents the possibility of overheating.

The chambers may be completely filled with the water or other liquid; or they may, if preferred, be only partially filled, so that they will contain bodies of air as well.

I have found by experiment that water is very effective for the purpose, but propose to use any liquid that may be preferred.

I am aware that axles have before been made hollow to contain lubricating material and supply it to the surface of the journal; this, therefore, I do not claim; neither do I claim any arrangement in which the chamber within the axle communicates with a chamber external thereto, as described, for example, in a patent granted September 5, 1871, to A. B. Tripler. By making my water-chamber without any opening whatever, I entirely dispense with the need of a supply-reservoir and with a packing around the axle, and avoid the possibility of any escape of water. The utility of the invention consists in providing a hollow axle, which may be precisely similar to a common axle in all its external features, and employing a permanently-inclosed body of water to conduct heat from the journals and distribute it over a sufficiently-large surface of the axle to cause its escape by ordinary radiation, thus preventing the overheating of the journals.

What I do claim, and desire to secure by Letters Patent, is—

A car-axle formed with one or more chambers within the journals, and extending inward, filled with water or other heat-conducting liquid and hermetically closed, as and for the objects specified.

THEODORE R. TIMBY.

Witnesses:

OCTAVIUS KNIGHT,
WALTER ALLEN.