

C. H. ALLEN.
Axle-Boxes for Vehicles.

No. 143,950.

Patented Oct. 28, 1873.

Fig. 1

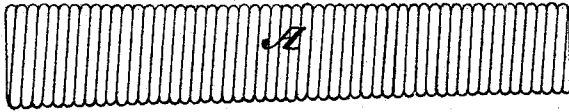


Fig. 2

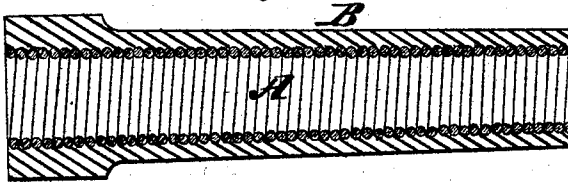


Fig. 3

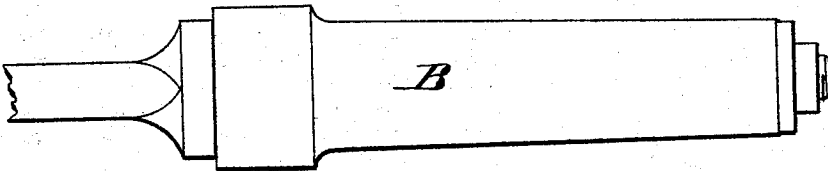
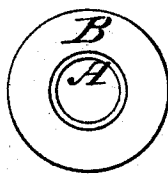


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

COTTON H. ALLEN, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN AXLE-BOXES FOR VEHICLES.

Specification forming part of Letters Patent No. **143,950**, dated October 23, 1873; application filed March 17, 1873.

To all whom it may concern:

Be it known that I, COTTON H. ALLEN, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and Improved Axle-Box; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a view of the coiled core of the box. Fig. 2 is a diametrical section through the complete box. Fig. 3 is an external view of the same applied on an axle. Fig. 4 is an end view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to improve axle-boxes by constructing them with an interior wall of helically-wound wire and an external wall of metal cast on such core, whereby a spiral thread of oil is supplied from one extremity to the other of the box, and the impinging surface of the inner wall of the box on the axle is greatly reduced, as will be hereinafter explained.

The following is a description of my improved axle-box:

In the accompanying drawings, A represents the helical core of the box, which forms the inner wall thereof, and presents to the axle the impinging surface. This core is produced by winding a wire of proper gage, which may be round, square, or of any other shape in cross-section, around a mandrel of proper di-

ameter, corresponding to the diameter of the axle for which it is intended. The core thus formed is adjusted in a mold, and the metal which is to form the external solid wall is poured around it, thus uniting the two metals or walls firmly together, and completing the article in question.

The interior wall A may be either steel, brass, or other metal wire, and it may be turned down or not, as circumstances require. It affords a good wearing-surface, and also a spiral groove or oil-passage from one end to the other of the box, for the free flow of lubricating material to the wearing-surfaces.

I do not claim an axle-arm, whether of wood or metal, wound with wrought-metal wire. My invention involves the casting of the metal about the wire, so as to unite the cast and wrought metals together, and, at the same time, leave the wrought metal exposed for a wearing-surface, which wearing-surface, being spirally channeled or grooved, permits a very perfect lubrication of the axle and box.

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

An axle-box composed of a helically-wound wire interiorly and a cast-metal external wall cast upon the said wire, substantially as described.

COTTON H. ALLEN.

Witnesses:

J. P. COLBY,
PHILLIP REISS.