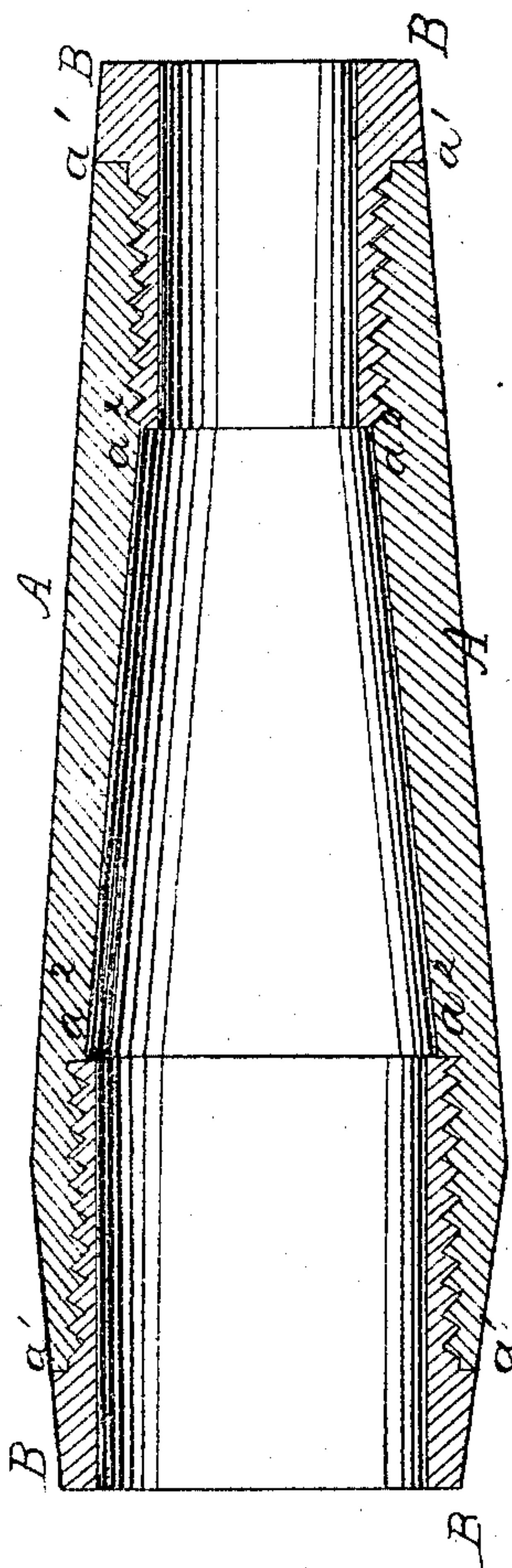


*H. B. Pitner.*

*Axle-Box.*

*Nº 72079*

*Patented Dec. 10 1867.*



*witnesses*  
*Theo Insehl*  
*W. F. Fourn*

*Inventor*  
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*Attorneys*

# United States Patent Office.

HENRY B. PITNER, OF LA PORTE, INDIANA.

Letters Patent No. 72,079, dated December 10, 1867.

## IMPROVEMENT IN AXLE-BOX.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, HENRY B. PITNER, of La Porte, in the county of La Porte, and State of Indiana, have invented a new and improved Axle-Box; and I do hereby declare that the following is a full, free, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to a new and improved method of constructing axle-boxes for carriages, whereby the same are more economically made, and the friction between the axle and the box is greatly lessened.

It consists of an iron thimble or sluice, provided on each end, in the inside, with a screw-thread, into which are fitted ends of brass or composition, or other metal softer than iron, in such a way that said metallic ends will not turn in the box, and so that the axle bears only upon the softer metal.

The drawing represents a central longitudinal section of my invention. A is the thimble or sleeve. B are the softer metallic ends.  $a^1$  are the shoulders on the metallic ends B.  $a^2$  are shoulders on the thimble or sleeve A. The thimble or sleeve A is made of cast or wrought iron, in the general form of axle-boxes, of sufficient thickness for strength, and of sufficient length for the axle to be used, and is chambered out on each end in the inside, so as to form the shoulders  $a^2$ , as shown in the drawing. Upon the inside of said chambers is cut a screw-thread, as shown. The end pieces B are made of brass or composition, or other metal softer than iron, of a shape so as when attached to the sleeve A, at each end of the same, to form a continuation of said sleeve A, as shown, and may be of any convenient length to give the required length to the box when finished. Said end pieces B are bored out, so as to fit the axle upon which they are to turn, in the usual way, the bore of the end pieces B being a little smaller than the bore of the sleeve A, as shown. At a short distance from the ends of the said end pieces B, the same are turned down to a smaller diameter, so as to form the shoulder  $a^1$ , as shown. Said end pieces A are provided with a screw-thread on the outside of the same, upon the smaller diameter of the same, entirely to the end of the same, the distance from the shoulder  $a^1$  to the inner end of the end pieces B being exactly equal to the distance from the shoulders  $a^2$  of the sleeve A to the ends of the same, so that the inner ends of the end pieces B will rest against the shoulders  $a^2$ , and the ends of the sleeve A will rest against the shoulder  $a^1$ , so that the end pieces B will not turn in the sleeve A when the box is in motion. The end pieces B are of sufficient length on the inside to give a suitable bearing for the box on the axle, and the same are finished on the outside, so as to conform to the general shape of the sleeve A, as shown in the drawing.

The operation is readily seen from the drawing, the bearings of the box on the axle being only on the inner surfaces of the end pieces B.

Constructed as above shown and described, it constitutes a cheap and durable axle-box for all kinds of carriages, whereby the friction between the axle and the box is greatly lessened.

I claim as new, and desire to secure by Letters Patent—

1. An axle-box, substantially as shown and described, and for the purposes set forth.
2. The sleeve or thimble A, in combination with the end pieces B, substantially as shown and described, and for the purposes set forth.
3. The shoulder  $a^1$  and the shoulder  $a^2$ , in combination with the sleeve A and end pieces B, substantially as shown and described, and for the purposes set forth.

The above specification of my invention signed by me, this 23d day of October, 1867.

HENRY B. PITNER.

Witnesses:

WM. C. PITNER,  
A. D. KIMBERLY.