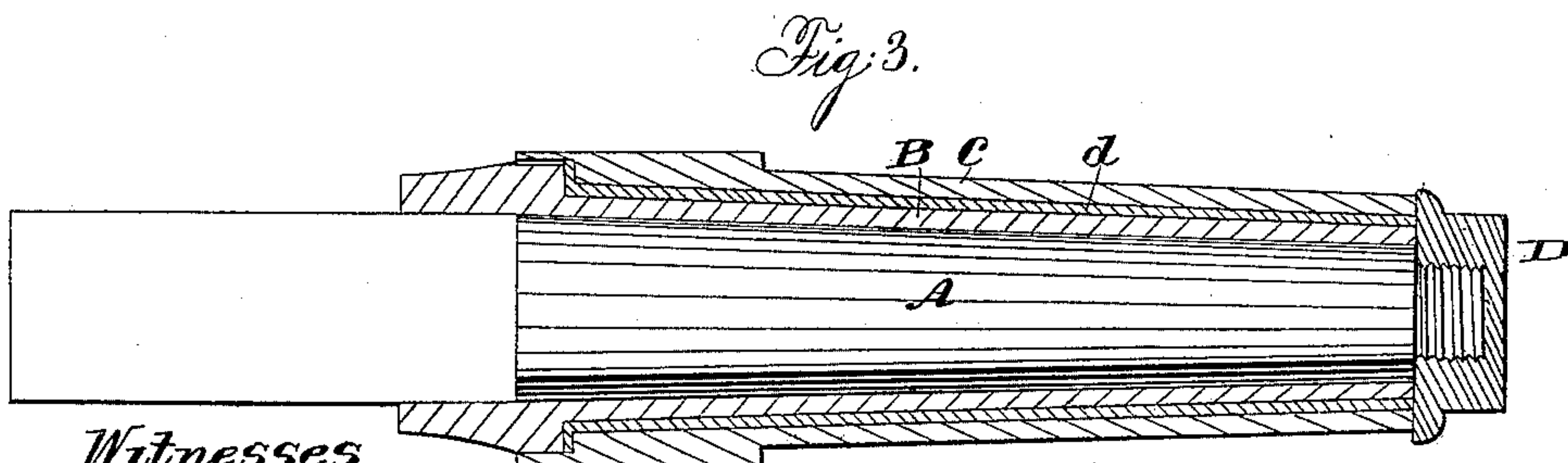
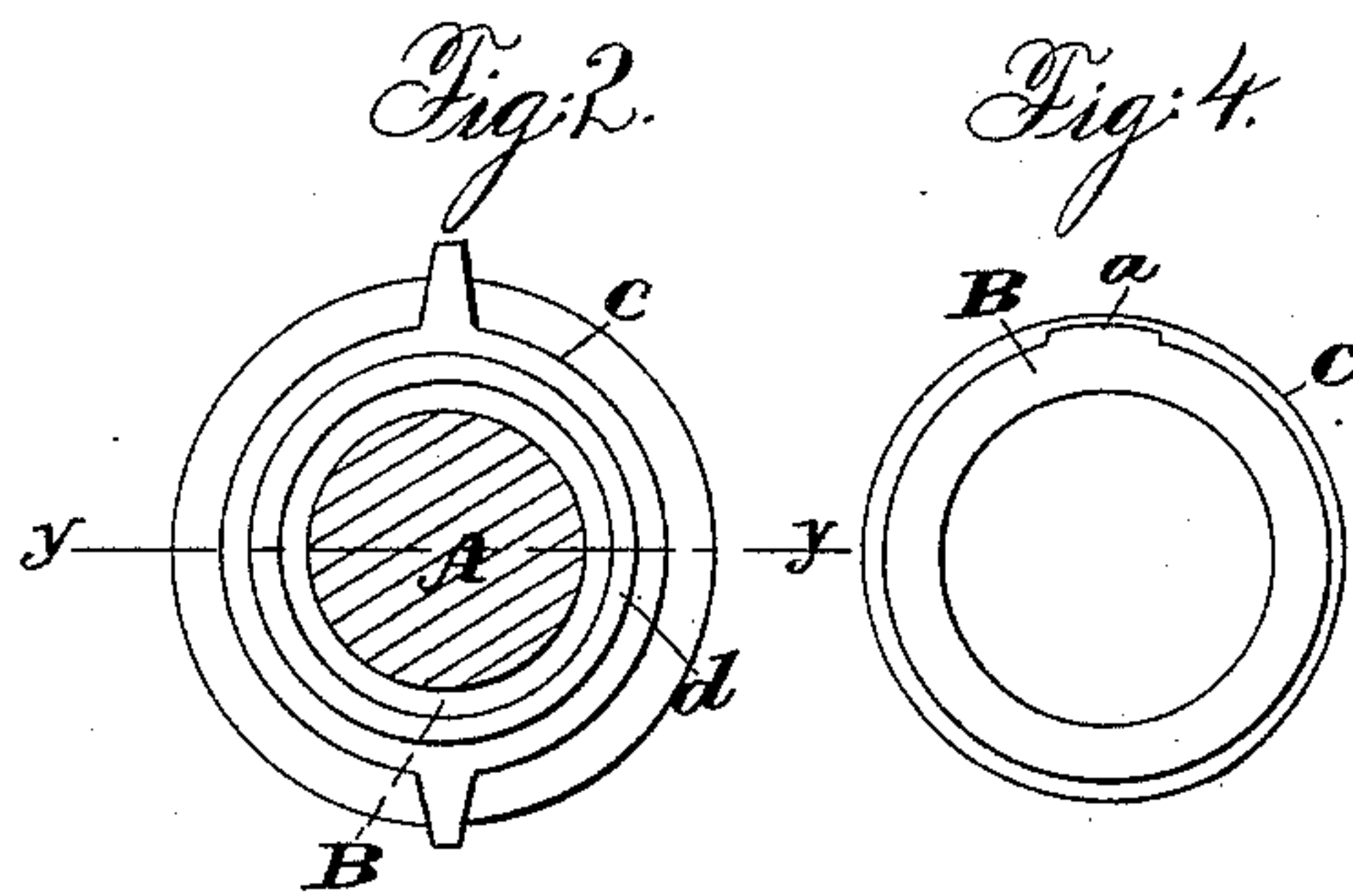
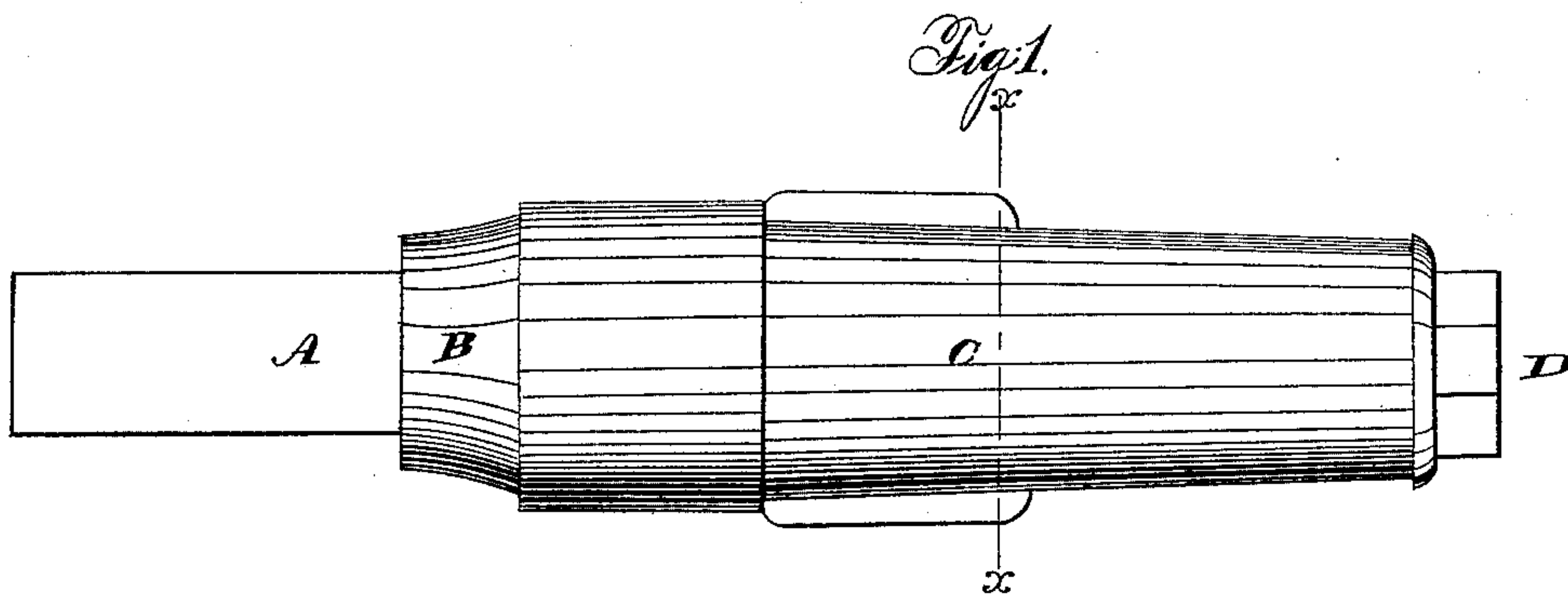


S. BARKER.

Axle-Box.

No. 69,160.

Patented Sept. 24, 1867.



Witnesses

*John H. Shumway*  
*A. J. Tibbitts*

*Inventor.*  
*Edas Barker.*  
*by his Atty.*

*John E. Carl*

# United States Patent Office.

SILAS BARKER, OF HARTFORD, CONNECTICUT.

*Letters Patent No. 69,160, dated September 24, 1867.*

## IMPROVEMENT IN AXLE-BOXES.

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, SILAS BARKER, of Hartford, in the county of Hartford, and State of Connecticut, have invented a new Improvement in Axle-Boxes; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view.

Figure 2, a section on line *x x*.

Figure 3, a longitudinal central section, and in

Figure 4 an inner end view of the box.

This invention relates to an improvement in the box fixed within the hub of carriage-wheels, its object being the construction of a box which, when worn, may be repaired without removing the box from the hub. Heretofore when axle-boxes have from use become worn it has been necessary to remove the box from the hub and insert a new one in its place. A new box can never be inserted as firmly as the first. By my invention this difficulty is entirely overcome, and the box may be removed at any time, and with comparatively no labor; and my invention consists in a bushing or sleeve fitted to the box, so that it may be removed and replaced at pleasure.

To enable others to construct and use my improvement I will proceed to describe the same as illustrated in the accompanying drawings.

A is the axle formed in the usual manner; B, a sleeve upon the axle, which was patented to me October 30, 1866. C is the axle-box, of the usual form, bored out a little larger than the diameter of the axle. *d* is a bushing or sleeve fitted into the axle-box, and bored out to fit the axle. The sleeve *d* should fit closely into the box, and I form a flange upon the inner end, against which a shoulder of the axle bears, and the outer end formed so as to extend nearly or quite through the box. The bearing of the nut D, however, should be against the axle-box rather than the sleeve. To prevent the sleeve *d* from turning I form a lug, *a*, upon one side of the flange, at the inner end, and a corresponding recess in the box. When the sleeve has become worn, so as to require renewal, simply draw out the worn sleeve or bushing and insert a new one.

In the manufacture of axles they are all formed of a positive regular size, and the boxes accordingly, so that any one box will fit all axles. The sleeve or bushing is formed in like manner, so that no difficulty will be experienced in changing the bushings. I have represented the axle as one of my improvement, yet this is not essential to the present invention, as the common axle is all that is necessary. I do not wish to be understood as claiming a bushing upon the axle itself, or when secured thereto in any manner.

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

The combination of the bushing *d* with the axle-box C, when constructed so as to be replaced, substantially in the manner herein set forth.

SILAS BARKER.

Witnesses:

A. J. TIBBITS,

JOHN H. SHUMWAY.