J. DICKENS.

Wagon-Axle Sleeve.

No. 200,519. Patented Feb. 19, 1878.

Fig. 1

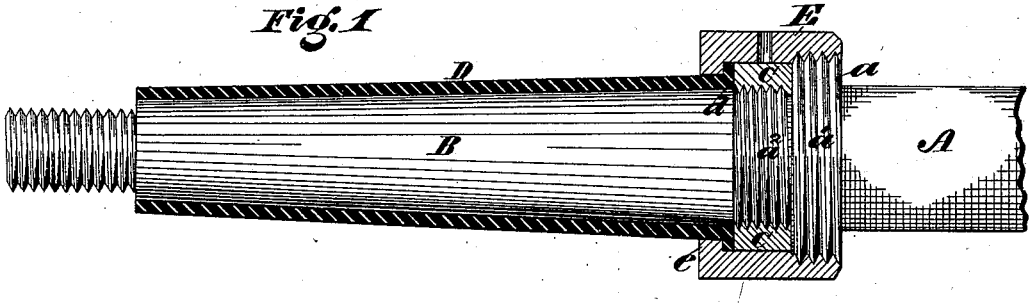



Fig. 2

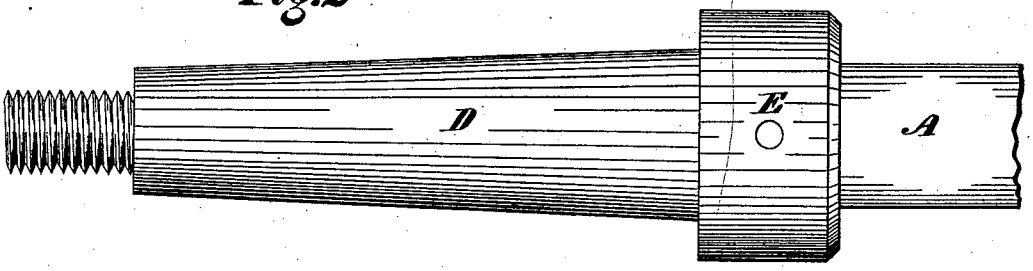



Fig. 3

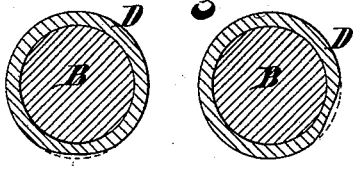
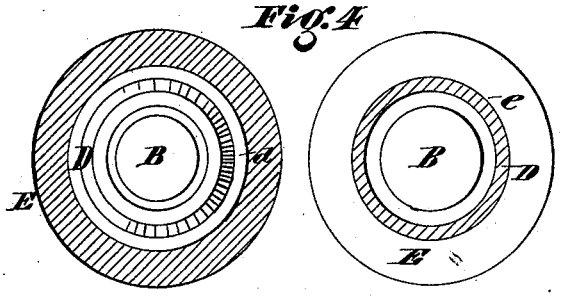



Fig. 4



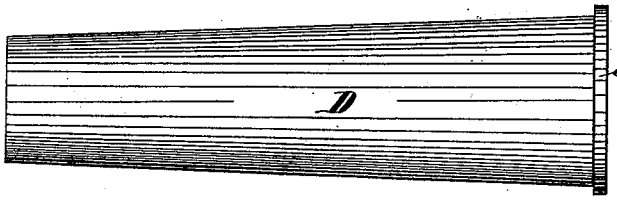




Fig. 5

WITNESSES:

Saml. J. Van Stavoren

Jos. B. Connolly

INVENTOR

John Dickens,

By Connolly Bros, ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOHN DICKENS, OF KINGSTON, NEW JERSEY.

## IMPROVEMENT IN WAGON-AXLE SLEEVES.

Specification forming part of Letters Patent No. **200,519**, dated February 19, 1878; application filed October 20, 1877.

*To all whom it may concern:*

Be it known that I, JOHN DICKENS, of Kingston, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Carriage and Wagon Axles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention. Fig. 2 is an elevation of the same. Figs. 3 and 4 are transverse vertical sections; and Fig. 5, a detail view, showing an elevation of the sleeve which surrounds the end of the axle.

My invention has relation to that class of wagon or carriage axles in which the axle-journal is provided with an adjustable sleeve, which may be turned on the journal when the under side becomes flattened and worn.

My invention consists in the novel construction, combination, and arrangement of parts and devices for securing the sleeve to the axle, and allowing it to be readily adjusted when required, all as hereinafter described and claimed.

Referring to the accompanying drawing, A designates a carriage or wagon axle, having rounded ends or journals B. Said axle is upset or enlarged at *a*, and threaded, as shown at $a^1$. Said axle is also threaded at $a^2$, where it is provided with a screw-collar or washer, C, which fits tightly against the shoulder or enlargement *a*.

D is a sleeve, which surrounds the journal B, having an external annular flange or shoulder, *d*, which rests against the screw-collar C.

E is another screw-collar, formed with an internal shoulder or annular flange, *e*, which meets the shoulder *d* on the sleeve D.

The sleeve D, being slid on the journal B, is held fixedly in place by means of the collar E, which screws on the upset part or enlargement *a* of the axle A, the shoulder *e* pressing the shoulder *d* against the collar C.

When the sleeve D becomes worn or flattened by use the collar E is unscrewed sufficiently to relieve said sleeve. To loosen said sleeve on the journal B, the collar C is now unscrewed slightly, causing the sleeve D to be slid out on the journal until it is loose and can be easily revolved on the latter. The sleeve is now turned on the journal on its longitudinal axis sufficiently to bring its worn or flattened part on the side of the journal. The collar E is then screwed on, as before, holding the sleeve fixedly in place against the collar C until it again becomes flattened and requires further turning.

The collar E, besides holding the sleeve in place on the journal and preventing its turning when in use, serves to strengthen the axle at the point where breakage usually occurs—viz., where the journal begins.

What I claim as my invention is—

The combination, with the axle A, having the separate threaded portions $a^1$ $a^2$ of different diameters, of the adjustable sleeve D, flanged at *d*, and the external and internal screw-collars C E, the latter being flanged at *e*, all substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of October, 1877.

JOHN DICKENS.

Witnesses:

SAML. J. VAN STAVOREN,

CHAS. F. VAN HORN.