

W. C. PARTLOW.
Vehicle-Axle.

No. 226,454.

Patented April 13, 1880.

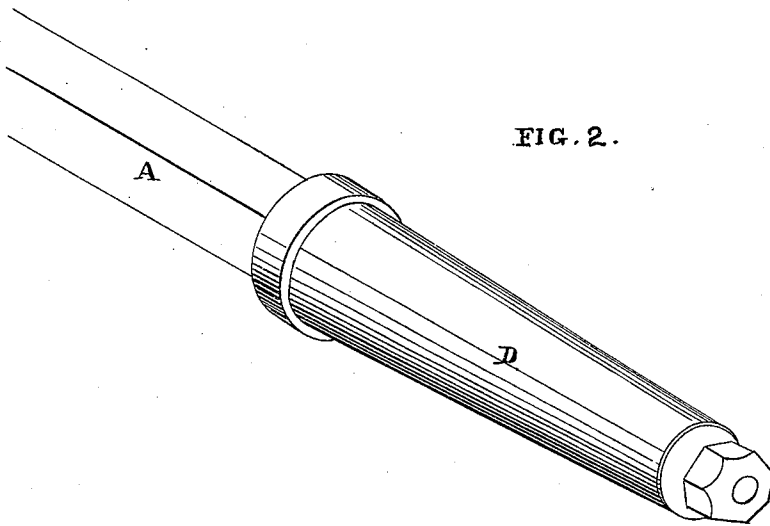


FIG. 2.

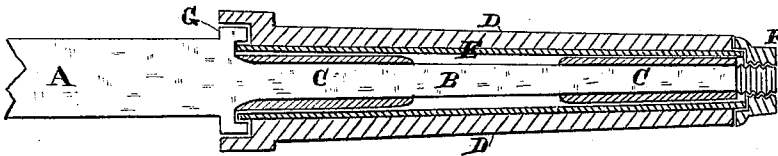


FIG. 1.

Witnesses

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Atty

UNITED STATES PATENT OFFICE.

WYMAN C. PARTLOW, OF OAKLAND, CALIFORNIA.

VEHICLE-AXLE.

SPECIFICATION forming part of Letters Patent No. 226,454, dated April 13, 1880.

Application filed May 22, 1879.

To all whom it may concern:

Be it known that I, WYMAN C. PARTLOW, of Oakland, county of Alameda, and State of California, have invented an Improved Vehicle-Axle: and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in the construction of wagon or carriage axles; and it consists in a novel construction and combination of parts whereby dust-proof caps are provided at each end of the spindle, all as will be hereinafter fully described.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a longitudinal section of my axle. Fig. 2 is a view of my device.

A is the axle, having the spindle B extending out to receive the wheel. When this spindle is made of simple iron it has a tendency to bend, besides being too soft to wear well, and when made of steel there is a great liability to fracture from the shocks of travel or the action of frost.

I avoid these difficulties by making the spindle of iron somewhat smaller than the box within which it is to run. Upon this spindle I shrink two sleeves, C, which extend toward the center of the spindle from each end, as shown, leaving a space between them, so that the axle-box will turn upon and be supported by the sleeves, which fit it, while a space is left between the sleeves, which is smaller, and serves to retain a fibrous substance, which is saturated with oil or other lubricant. These sleeves are chilled or hardened, so that the axle, while having all the toughness of iron, will also be provided with a perfectly hard surface for the purposes of a journal.

The axle-box D is made of iron and has a lining, E, of brass or composition, which will run upon the steel sleeves. The ends of this lining project beyond the ends of the axle-box, as shown.

The nut F, which secures the wheel upon the axle, is recessed, so as to receive the outer end of the lining, and it thus forms a joint, which is an effectual dust-proof cap at this end.

The collar G, at the inner end of the spindle, has a recess formed in the face, against which the axle-box fits, and this recess receives the inner end of the lining. The end of the

axle-box projects over the collar, so as to be flush with its inner end, and this arrangement provides an efficient dust-proof cap at the inner end.

In forming the spindle to receive the inside sleeve, I turn it down in a curve, as shown, and the inner end of the sleeve is made bell-mouthed to fit this curve. This avoids the formation of any sharp angle at this point, which would be liable to fracture more easily by bending or strain.

By my method of securing the steel sleeves at each end of the spindle and employing a composition lining for the axle-box, I provide a more perfect journal.

The composition lining extending out at both ends, with a recessed collar and nut, forms a complete chamber, not only to keep out the dust, but also to save oil, and, being removable, may be removed at any time when it has become worn without the expense of renewing the whole box.

I am aware that dust-caps have been formed by extending a portion of the box itself; and I am also aware that a malleable-iron collar or sleeve has been secured to the spindle.

I am further aware that a spindle has been formed with a depression in the center; and I do not claim, broadly, any of these forms of construction; but

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

1. The wrought-iron spindle B, with its steel sleeves C C, fitted as shown, in combination with the axle-box D, extending over the collar G, and provided with the removable soft-metal lining E, the ends of which project and enter recesses in the collar G and nut F, substantially as and for the purpose herein described.

2. In combination with the spindle B, with its hardened-steel sleeves C, as shown, the axle-box D, with its removable composition lining E, the ends of which project beyond the box and enter recesses in the collar G and nut F, to form dust-proof caps, substantially as herein described.

In witness whereof I have hereunto set my hand.

WYMAN C. PARTLOW.

Witnesses:

GEO. H. STRONG,
FRANK A. BROOKS.