W. WINSLOW.

CAR-AXLE.

No. 190,175. Patented May 1, 1877.

*Fig. 1.*

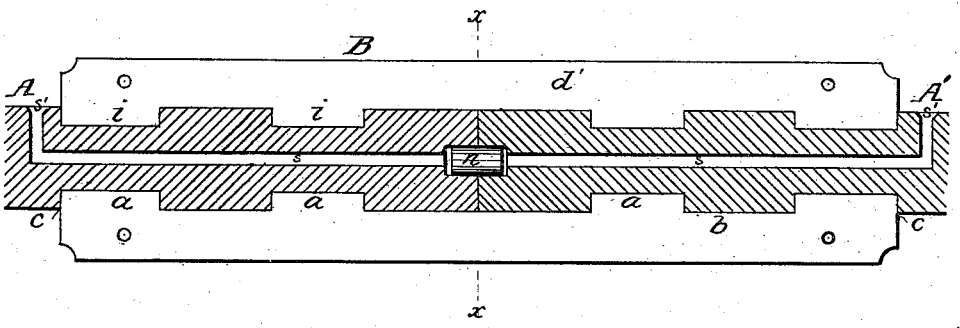
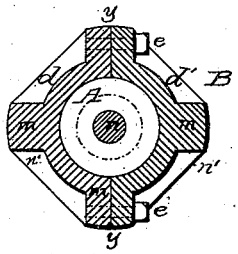



*Fig. 2.*

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# UNITED STATES PATENT OFFICE.

WILLARD WINSLOW, OF LOWVILLE, NEW YORK.

## IMPROVEMENT IN CAR-AXLES.

Specification forming part of Letters Patent No. **190,175**, dated May 1, 1877; application filed March 21, 1877.

*To all whom it may concern:*

Be it known that I, WILLARD WINSLOW, of Lowville, Lewis county, New York, have invented Improvements in Divided Axles for Cars, of which the following is the specification:

The object of my invention is an improvement in that class of axles which are divided in the center, a section being attached to each wheel; and my improvement consists in dividing the box longitudinally, and providing it with external ribs, and making the axle with annular grooves, with recesses adapted to receive a loose block, and with oiling-channels, arranged as hereafter described.

In the drawing, Figure 1 is a longitudinal section of sufficient of an axle and coupling to show my improvement; and Fig. 2 is a transverse section on the line *x x*, Fig. 1.

A A′ are the two sections of a divided axle, the ends of which butt together, as shown. Each section has two annular grooves, *a*, forming two annular projections or collars, *b*, and a shoulder, *c*, and to that portion of the axle between the shoulders is fitted a coupling-box, B. The coupling-box is divided longitudinally on the line *y y*, Fig. 2, and each half fits nicely to the corresponding portion of the axle, as shown, and the two parts are clamped together and upon the axle by bolts *e e*, which may be provided with elastic washers, to prevent them from turning. Thus applied, the coupling-box permits the independent rotation of either section of the axle; but the internal annular projections *i* of the box, which extend into the annular grooves *a* of the axle, effectually prevent any endwise movement of either section, and maintain their relative position. In order to relieve the box from strain resulting from the tendency of the end of either section to move radially independent of the other, coinciding recesses are formed in both ends, to receive a loose plug, *n*, which effectually secures the desired result.

In order to effect the ready lubricating of the bearings, and especially at the point where most friction exists—that is, at the center of the box—an oil-channel, *s*, is formed in the end of each section, and extends to a radial channel, *s′*, beyond the end of the box. Through this channel an abundant supply of oil may at any time be applied to the center bearing, from which it finds its way to all the other frictional points.

In order to reduce the weight of the box, and at the same time secure the requisite strength, each section is formed with longitudinal ribs *m*, and transverse ribs *n′*, arranged at suitable intervals.

It will be seen that, while this construction readily secures the two sections and retains them in position, it is extremely simple, and is strong, and permits the sections to be easily connected or detached, and all the parts to be readily lubricated without any possibility of dust or grit reaching the wearing-surface.

I claim—

1. The combination of the sections A A′, their annular grooves, recesses, and channels *s s′*, the box B divided longitudinally, and adapted and applied to the axle and secured by transverse bolts, as set forth, and the pin *n*, fitting coinciding recesses in both sections, all as described.

2. The box consisting of the sections *d d′*, adapted to the axle, its projections and grooves, each section having longitudinal ribs *n* and transverse ribs *n′*, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLARD WINSLOW.

Witnesses:
PETER LEVIS,
HIRAM PORTER.