

E. F. WAGNER.

Improvement in Carriage Axles.

No. 115,913.

Patented June 13, 1871.

Fig. 1.

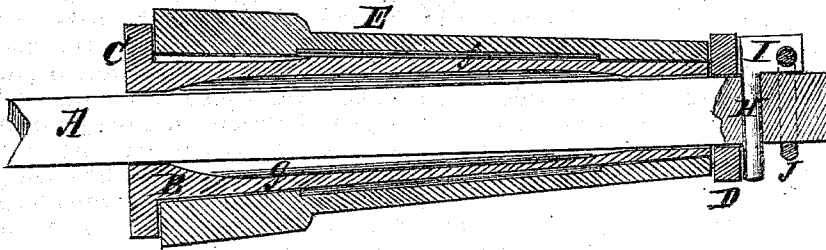


Fig. 2.

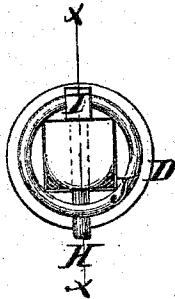
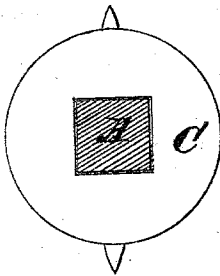


Fig. 3.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ERNEST FRIEDRICH WAGNER, OF HOUSTON, TEXAS.

## IMPROVEMENT IN CARRIAGE-AXLES.

Specification forming part of Letters Patent No. 115,913, dated June 13, 1871.

*To all whom it may concern:*

Be it known that I, ERNEST FRIEDRICH WAGNER, of Houston, in the county of Harris and State of Texas, have invented a new and useful Improvement in Carriage-Axles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others 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 useful improvement in axles for carriages, wagons, &c.; and consists in a sleeve, bearing, and linch-pin device, arranged as hereinafter described.

In the accompanying drawing, Figure 1 represents a longitudinal section of the axle taken on the line *x x* of Fig. 2. Fig. 2 is a front-end view, and Fig. 3 is a back-end view.

Similar letters of reference indicate corresponding parts.

A is the axle proper, which is simply a square bar of steel or iron, of suitable size and length, with linch-pin holes in its ends for securing the wheels. B is a sleeve, which is, by shrinking or otherwise, made fast to the axle so as to form the bearing-arm or journal of the wheel. C is a collar on the back end of the sleeve. D is a washer at the front end of the sleeve. E is the pipe-box, which is driven into the hub of the wheel. *f* is a recess in the box for the retention of the lubricating material. The interior of the sleeve B is recessed out for the

purpose of lengthening it, as seen at *g* in the drawing. H is the linch-pin. I is the head of the linch-pin; and J is a ring in the head of the linch-pin, which ring passes over the end of the axle and prevents the linch-pin from turning round or rising from the axle.

The advantages are, this axle is cheaper and more easily made than the common axle. It is more cheaply repaired when broken. The piece A is more readily handled in the fire, and can be cut to the required length at once, thus saving the trouble and expense of welding. There are other advantages incident to this mode of constructing axles which must be obvious to all who are acquainted with the subject.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The linch-pin H J, washer D, pipe-box E with oil-recess *f*, sleeve B provided with recess *g*, and collar C, arranged as shown and described, in connection with the axle-journal A, made square in cross-section, as shown and described.

2. The sleeve B provided with collar C, and the pipe-box E having oil-recess *f*, arranged in connection with the square axle A, as specified.

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Witnesses:

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