J. HERRMANN & P. HERRMANN.

Improvement in Wagon Axles.

No. 115,317. Patented May 30, 1871.

Fig. 1

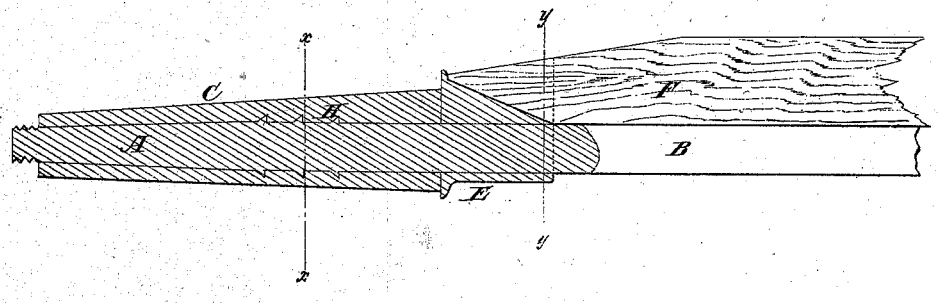


Fig. 2.

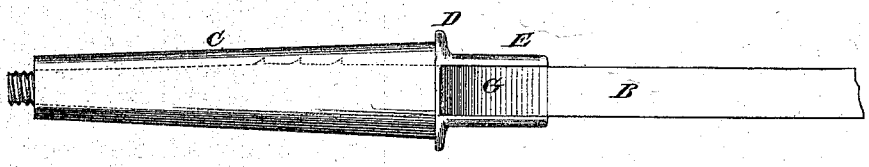


Fig. 3.

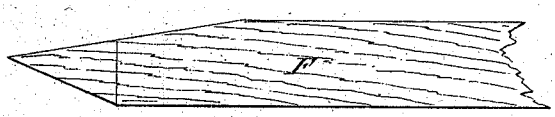


Fig. 4.

Fig. 5.

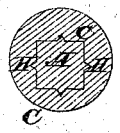
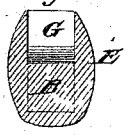


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN HERRMANN AND PETER HERRMANN, OF TELL CITY, INDIANA.

IMPROVEMENT IN WAGON-AXLES.

Specification forming part of Letters Patent No. 115,317, dated May 30, 1871.

To all whom it may concern:

Be it known that we, JOHN HERRMANN and PETER HERRMANN, of Tell City, in the county of Perry and State of Indiana, have invented a new and Improved Wagon-Axle; and we 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 improvements in axles for wagons; and it consists in combined wrought and cast metal journals, made by casting an outer wearing surface upon an inner wrought-iron extension of the axle, by which a hard-chilled wearing surface, strengthened by a wrought-iron core to protect it against breaking, is obtained. The invention also consists in an arrangement of the cast-metal part for bracing the wrought-iron part at the junction with the cast metal by the wood part of the axle when wood is employed.

Figure 1 is a longitudinal sectional elevation of the improved journal; Fig. 2 is a plan view; Fig. 3 is a side view; and Fig. 4, a top view of the wood part of the axle. Fig. 5 is a transverse section on the line *x x;* and Fig. 6 is a transverse section on the line *y y.*

Similar letters of reference indicate corresponding parts.

A is the extension of the wrought or rolled iron part B of an axle, comprising the iron part of a combined iron and wood axle; or it may comprise the whole of an iron axle for light wagons. This extension is made smaller than the hole in the wheel, and an outer wearing part, C, is cast around it for the axle, and chilled in the casting to form a more durable journal than the soft iron would, and a stronger one than the cast-iron alone. We form the collar D on the cast-metal part and extend it along the wrought metal some distance, as shown at E, for strengthening the latter; and in case the wood-piece F (such as is common in heavy wagons) is used we provide the groove G in the upper side of the extension E with a slanting bottom, and fit the said wood piece thereby, as shown, for bracing the part B. The extension A of B is provided with spurs H or other like projections for locking the cast metal on it, and it is preferably made square and of uniform size to about the middle, and tapering from there to the end.

Wrought-iron axles are liable to bend and break in the parts A. They are also soft and wear away fast; and thimble-skein axles soon rot and break. In this respect our improved combined cast and wrought metal axles will be found much superior to them.

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

1. The combination, with the wrought-iron extension A of the axle B, of the cast-metal wearing-surface for the journal, substantially as specified

2. The cast-metal part C, provided with the recess G in the extension E, and the wood part D of the axle fitted therein, substantially as specified.

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