W. WELLS.

CAR-AXLE.

No. 187,688. Patented Feb. 20, 1877.

Fig. 1.

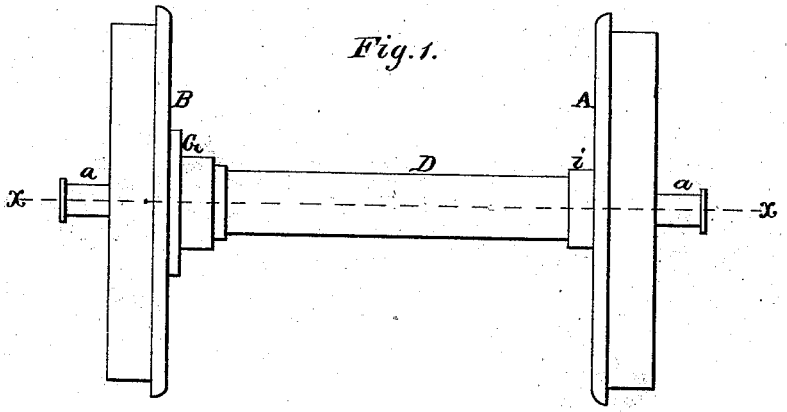
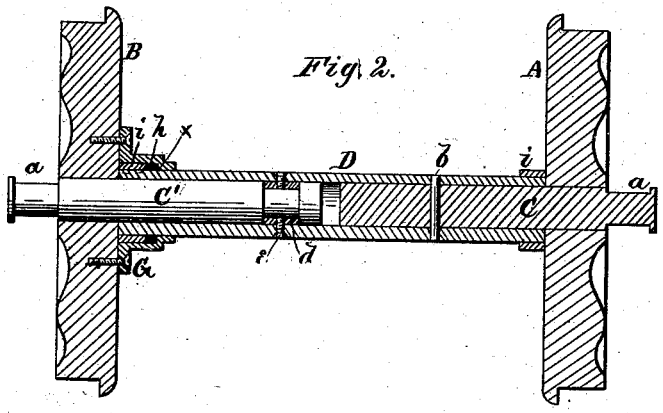


Fig. 2.



WITNESSES

Henry N. Miller

INVENTOR

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM WELLS, OF SALEM, MASSACHUSETTS.

IMPROVEMENT IN CAR-AXLES.

Specification forming part of Letters Patent No. **187,688**, dated February 20, 1877; application filed February 8, 1877.

To all whom it may concern:

Be it known that I, WILLIAM WELLS, of Salem, in the county of Essex, and in the State of Massachusetts, have invented certain new and useful Improvements in Car-Axle; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to axles for railroad-cars; and it consists in the construction of a compound axle, whereby the car-wheels are enabled to revolve at different speed in turning curves, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which fully illustrates my invention, and in which—

Figure 1 is a side elevation of a car-axle, with wheels embodying my invention. Fig. 2 is a longitudinal section of the same through the line *x x* of Fig. 1.

A and B represent two ordinary flanged car-wheels constructed in any of the known and usual ways. The wheel A is secured in the usual manner on a short axle, C, having a journal or bearing, *a*, at its outer end. D represents a sleeve, or cylinder of suitable dimensions, one end of which is placed over the inner end of the short axle C, close up to the inner side of the wheel A, and said sleeve or cylinder is then fastened to the axle C by means of a pin, *b*, passed through them, as shown in Fig. 2, or otherwise. In the other end of the cylinder D is inserted another short axle, C′, upon which the wheel B is secured. This axle C′ has also a journal or bearing, *a*, at its outer end, and near its inner end is a circumferential groove of suitable width, in which is placed a collar, *d*, and this collar is held to the inside of the sleeve or cylinder D by means of screws or pins *e e*, whereby all lateral motion of the axle C′ in the sleeve is prevented. It will be seen that the sleeve or cylinder D turns with the wheel A and axle C, while the axle C′ rotates in the cylinder; hence, the two wheels A and B can rotate independently of each other at different rates of speed. The sleeve or cylinder D extends close up to the inner faces of the two wheels A and B, and around each end of said sleeve is a ring or collar, *i*, swaged or otherwise permanently secured thereon. To the inner side of the wheel B is secured a flanged box, G, which surrounds that end of the sleeve or cylinder D, and has an interior shoulder, *x*, as shown. Between this shoulder and the ring or collar *i* is placed suitable packing *h*, whereby the entrance of any dirt or dust is prevented between the axle C′ and the sleeve or cylinder D. By this device the slipping of one wheel while going around a curve is entirely prevented, as the wheels can revolve independently of each other at different rates of speed.

I am fully aware that divided axles for railroad cars to allow of the wheels turning independently of each other are not new, and hence I do not claim such broadly as being my invention.

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

The combination, with the car-wheel B and its axle C′, of the sleeve or cylinder D, provided with the ring *i* at its end, the flanged box G, secured to the wheel and formed with the interior shoulder *x*, and the packing *h*, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of February, 1877.

WILLIAM WELLS.

Witnesses:

J. M. MASON,

FRANK GALT.