N. JONES.
Car-Axle.

No. 210,783. Patented Dec. 10, 1878.

Fig. 1.

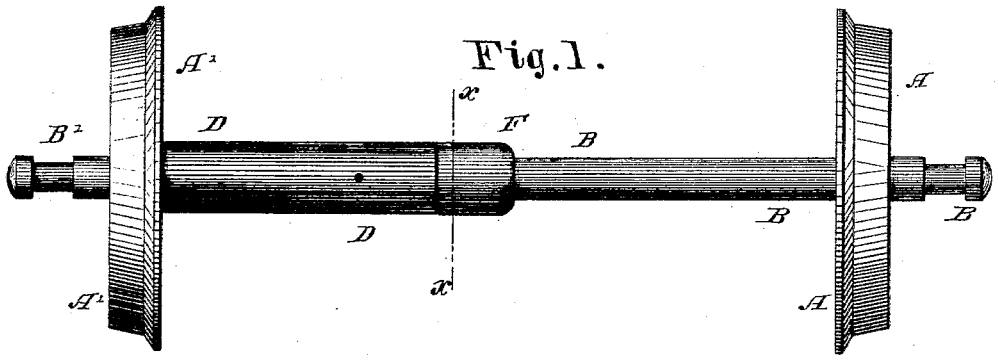


Fig. 2.

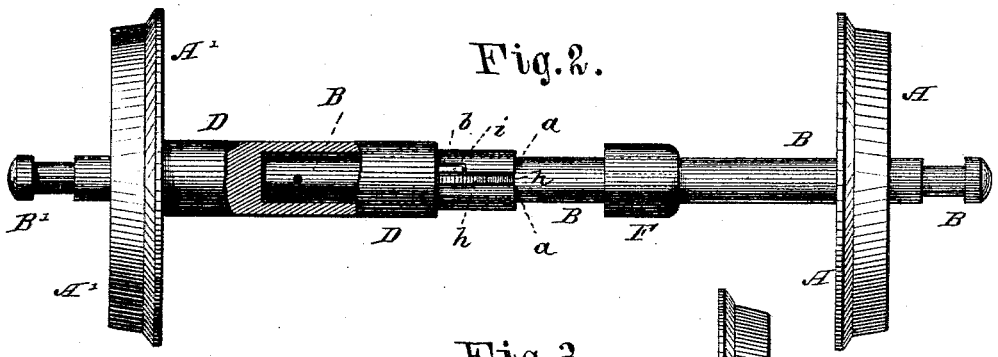


Fig. 3.

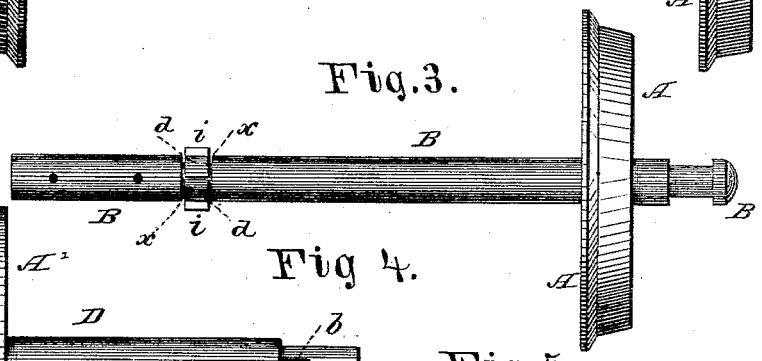


Fig 4.

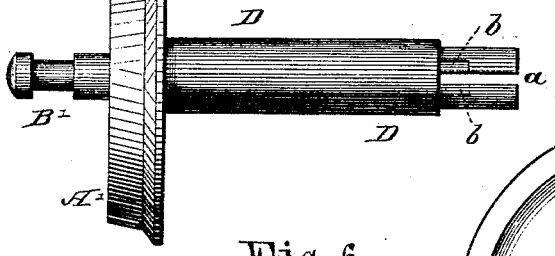
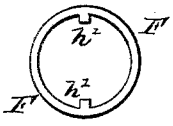
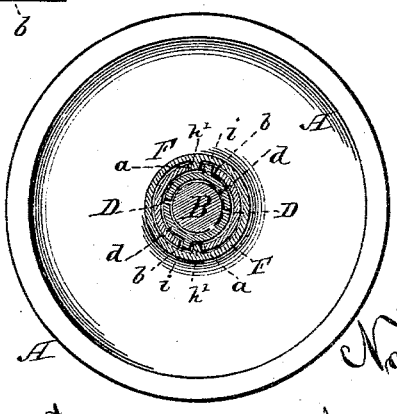


Fig. 5.

Fig. 6.





Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

NATHANIEL JONES, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN CAR-AXLES.

Specification forming part of Letters Patent No. **210,783**, dated December 10, 1878; application filed September 17, 1878.

To all whom it may concern:

Be it known that I, NATHANIEL JONES, of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Car-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 which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of car-axles which are so arranged that the wheels will turn independently of each other; and it consists in the construction of parts for so uniting the same that all lateral motion is prevented, as will be hereinafter more fully set forth.

In the annexed drawings, which fully illustrate my invention, and to which reference is made, Figure 1 is a side view of my invention. Fig. 2 is a similar view, partly in section. Figs. 3 and 4 show the parts detached from each other. Fig. 5 is a transverse section on the line *x x*, Fig. 1. Fig. 6 is a view of the band F.

A and A′ represent the two car-wheels, constructed in the usual manner.

The wheel A is provided with a solid axle, B, which forms the usual journal or bearing at the outer side of the wheel, while the wheel A′ is provided with a journal or bearing, B′, on the outer side; but the axle B may, if desired, be extended through the hub of the wheel A′, and form the bearing on the outer side thereof, the wheel A′ in such case being free to turn on the axle, while the wheel A in both cases is fast on the axle.

From the inside of the wheel A′ extends a sleeve, D, of any desired length, which sleeve is of such interior diameter as to form a suitable space for the insertion of the end of the solid axle B.

The sleeve D has one or more slots, *a*, extending longitudinally inward from its end, and at the inner end of each slot *a* is formed a notch, *b*, on one or both sides.

On the solid axle B, a suitable distance from its end, is made an exterior circumferential groove, *x*, in which is placed a collar, *d*. This collar may be made in one or two pieces, and to wholly or only partially surround the solid axle.

From the collar projects one or more lugs, *i*, which, as the parts are placed together, pass into the slot or slots *a* in the sleeve D. When the lugs *i* have reached the inner ends of said slots the sleeve D is rotated, so that said lugs will enter the notches *b*, formed at the inner ends of the slots.

A key, *h*, is then driven into each slot *a*, so as to lock the lugs *i* in the notches *b*.

It will readily be seen that when the parts are thus united the wheels can turn independently of each other, and can have no lateral motion.

In lieu of the keys *h*, I may use a duplicate band, F, to slip over the sleeve, said band being provided with ribs or projections *h′* to fit the slots; or a key may be placed in the slots and a band placed over the end of the sleeve and keys, and fastened in position, or in any other suitable manner.

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

1. In combination with the wheels A A′, the solid, divided, or undivided axle B, provided with a movable collar, *d*, recessed therein, and having one or more lugs, *i*, and the slotted sleeve D, projecting from the wheel A′, for the purposes set forth.

2. The combination of the solid axle B, having circumferential groove *x*, the collar *d*, with one or more lugs, *i*, and the sleeve D, with one or more slots, *a*, having notches *b* at their inner ends, and a locking device, for the purposes set forth.

3. The key *h*, in combination with the sleeve D, having slot *a*, with notch *b*, and the collar *d*, with lug *i*, for the purposes herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

NATHANIEL JONES.

Witnesses:

C. H. WATSON,

A. D. JOHNSON.