

R. N. ALLEN.
Railway Car Axles.

No. 139,226.

Patented May 27, 1873.

Fig. 1.

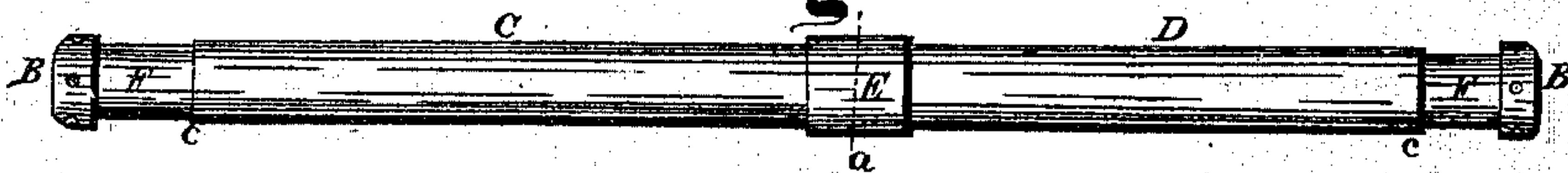


Fig. 2.

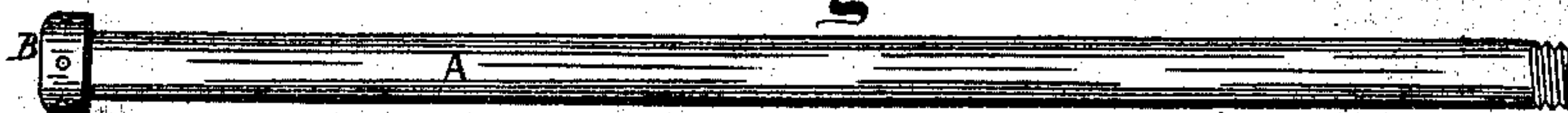


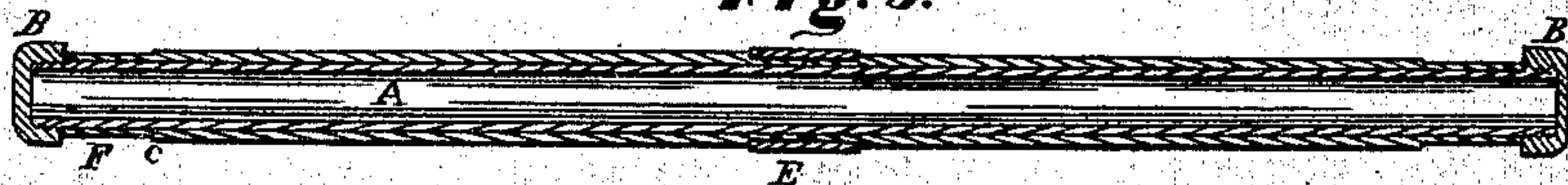
Fig. 3.



Fig. 4.



Fig. 5.



Witnesses.

A. F. Cornell.
A. G. Bigelow

Inventor.

R. N. Allen.
Per. Burdette & Co.
Atty.

UNITED STATES PATENT OFFICE.

RICHARD N. ALLEN, OF PITTSFORD, VERMONT.

IMPROVEMENT IN RAILWAY-CAR AXLES.

Specification forming part of Letters Patent No. **139,226**, dated May 27, 1873; application filed March 3, 1873.

To all whom it may concern:

Be it known that I, RICHARD N. ALLEN, of Pittsford, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Railway-Car Axles, of which the following is a description:

Figure 1 is a side view of the axle. Figs. 2, 3, and 4 are detached sections. Fig. 5 is a longitudinal transverse section.

Like letters of reference refer to like parts in the several views.

The nature of my invention relates to a railway-car axle, and the object thereof is to cause a continued revolution of the wheels while rounding a curve, thereby avoiding the dragging of the wheel on the outer line of the track-curve, and the consequent friction and strain upon the axle and housing of the car &c. Of the construction and operation of the aforesaid axle, the following is a description.

A, in Fig. 1, represents a hollow shaft, on each end of which is screwed, or otherwise secured, a head, B. To said shaft is closely but loosely fitted a pair of sleeves, C D, which abut against each other at the middle of the shaft, as shown in Fig. 1 by dotted lines *a*. A detached view of one of the sleeves is shown in Fig. 3. Over the joint, formed by abutting the two ends of the sleeves, is fitted a collar, E, as shown in Figs. 1 and 5. A detached view of the collar is shown in Fig. 4. In order to prevent the collar from sliding laterally on the shaft, the end of each of the sleeves is reduced in diameter, thereby forming a shoulder, *b*, Fig. 3. Between the two shoulders the collar is confined, as shown in Fig. 5. The outer end

of each of the sleeves is also reduced in diameter, as shown at F, Figs. 4 and 5, forming journals.

It will be obvious that wheels secured to an axle constructed as above described will both turn on the shaft A in the same direction, or reversely with each other, as the case may be; and, also, independently of each other, as the sleeves to which the wheels are secured are free to rotate on the shaft separately and independently of each other at variable degrees of motion; hence, when the wheels are running conjointly and with uniform and equal speed on a straight track, they will vary their movements on rounding a curve, more or less, according to the time of curvature. Therefore, there will be no dragging of the wheels. On the outer rail, as the wheels will continue to revolve, though differentially, as the difference in the two rails may be. The sleeves are oiled along the length of the shaft by pouring oil into the hollow of the shaft, from which it works out through small perforations made in the side of the shaft.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The hollow shaft A, nuts B, sleeves C D, and collar E, all constructed and combined to operate in the manner as and for the purpose set forth.

RICHARD N. ALLEN.

Witnesses:

W. H. BURRIDGE,
A. F. CONNELL.