S. HALL & S. L. HALL.

CAR-AXLE.

No. 173,000 Patented Feb. 1, 1876.

Fig. 1.

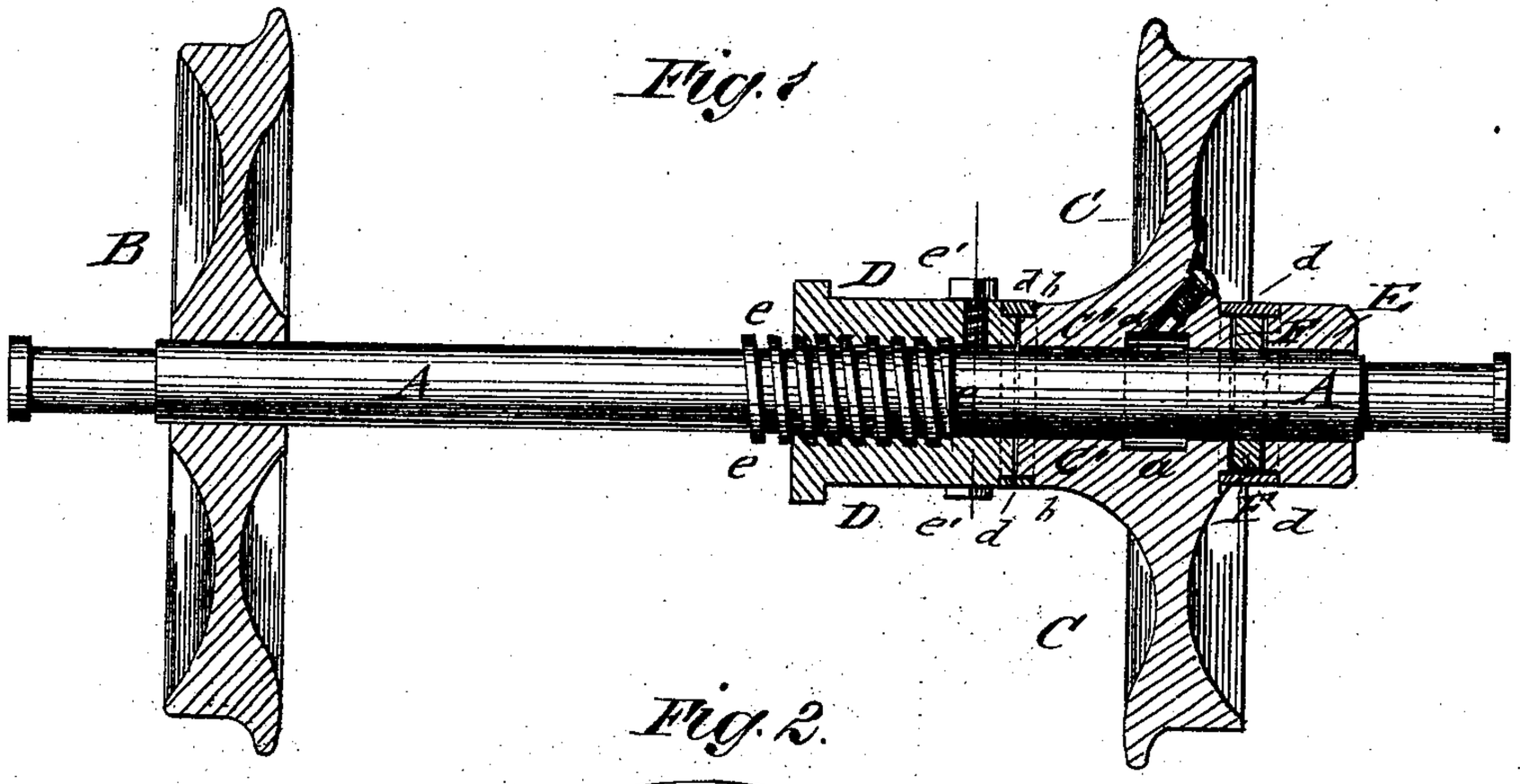


Fig. 2.

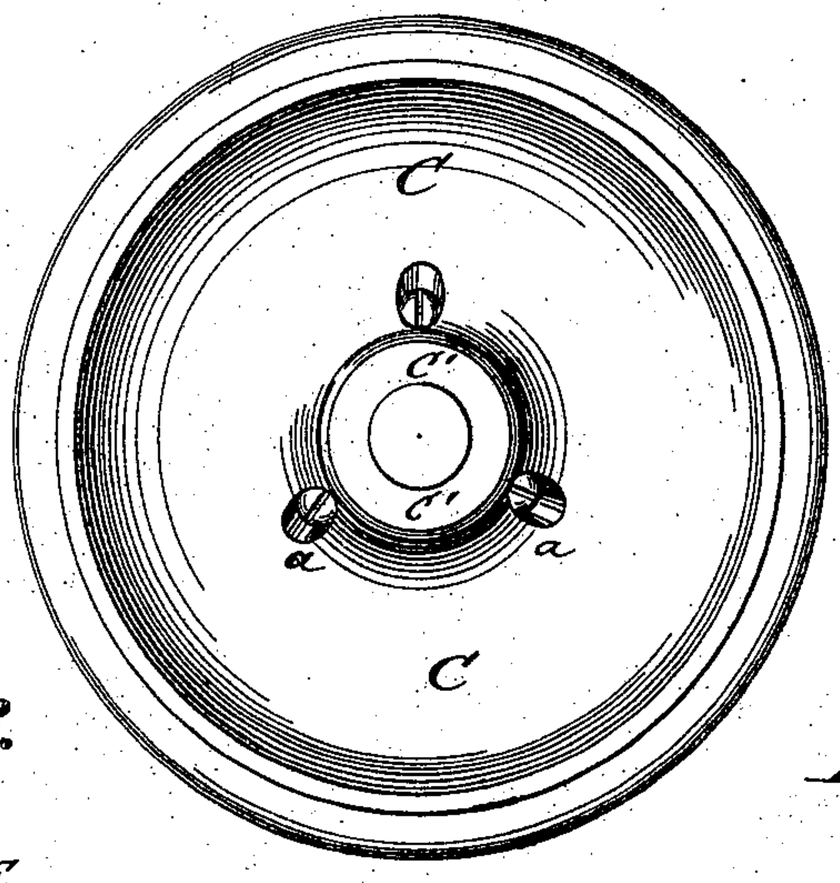


Fig. 3.

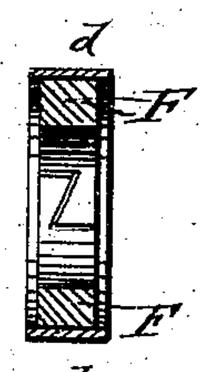
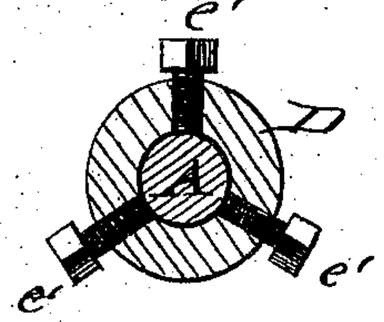


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SIMON HALL AND SAMUEL L. HALL, OF AHNEPEE, WISCONSIN.

IMPROVEMENT IN CAR-AXLES.

Specification forming part of Letters Patent No. **173,000**, dated February 1, 1876; application filed June 19, 1875.

To all whom it may concern:

Be it known that we, SIMON HALL and SAMUEL L. HALL, of Ahnepee, in the county of Kewaunee and State of Wisconsin, have invented a new and Improved Car-Axle, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a sectional elevation of our improved railway-car axle; Fig. 2, an end view of the adjustable wheel; and Figs. 3 and 4, respectively, detail sections of the interposed washer-section and fastening-sleeve.

Similar letters of reference indicate corresponding parts.

The invention will first be fully described, and then pointed out in the claim.

In the drawing, A represents our improved railway-car axle, which is provided with a fixed wheel, B, and a loose adjustable wheel, C. The axle is of such length that the loose wheel C may be adjusted thereon to the widest gage in use. Wheel C is made with a long hub, C′, extending both ways, or, preferably, mainly inwardly, as in Fig. 1, for the purpose of securing the steady position of the wheel on the axle without wabbling. The interior of the hub is chambered out for an annular oil-cavity, *a*, with one or more openings for filling in the oil, which is fed to the axle-journal within the hub. At the ends of the hub annular recesses *b* are turned, that take up, in connection with similar recesses of the adjoining parts, elastic bands or packing-rings *d* of suitable material, to prevent the escape of the oil from the hub. The axle A is constructed at its inner part, between the wheels, with a heavy raised thread, *e*, on which a sleeve, D, with corresponding thread, turns, to be adjusted to the position of the loose wheel at different gages. The sleeve forms the inside collar when adjusted, and is then secured firmly in place by set-screws *e′*, which may be prevented from playing loose in any approved manner. At the outer end of axle A a collar or nut, E, is shrunk, or otherwise permanently attached, that defines the outermost position to which the loose wheel is adjustable.

When the wheel is to be adjusted to a narrower width of gage, the sleeve is screwed back, and a sectional washer, F, made of two semi-sections, suitably connected by dovetails or dowel-pins placed between the outer end of hub and collar. The sleeve is then screwed up, so as to force the loose wheel and washer firmly in position, the joints of the hub, washer, and collar being closed by the elastic packing-rings to retain the oil.

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

The combination, with wheel C C, of fixed collar E, movable collar D, and intermediate washers F, as and for the purpose specified.

SIMON HALL.
SAMUEL L. HALL.

Witnesses:
G. W. ELLIOTT,
IRVING W. ELLIOTT.