

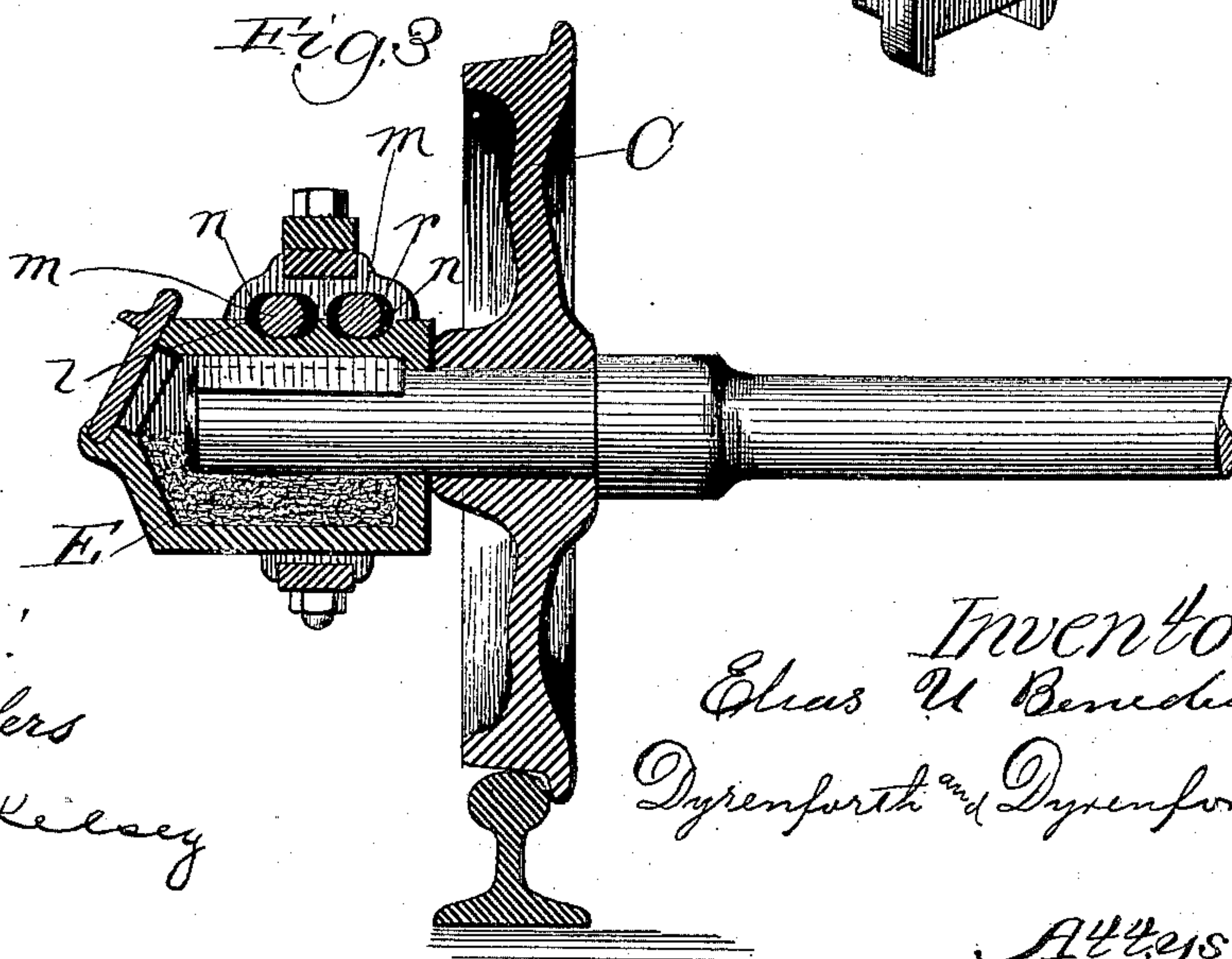
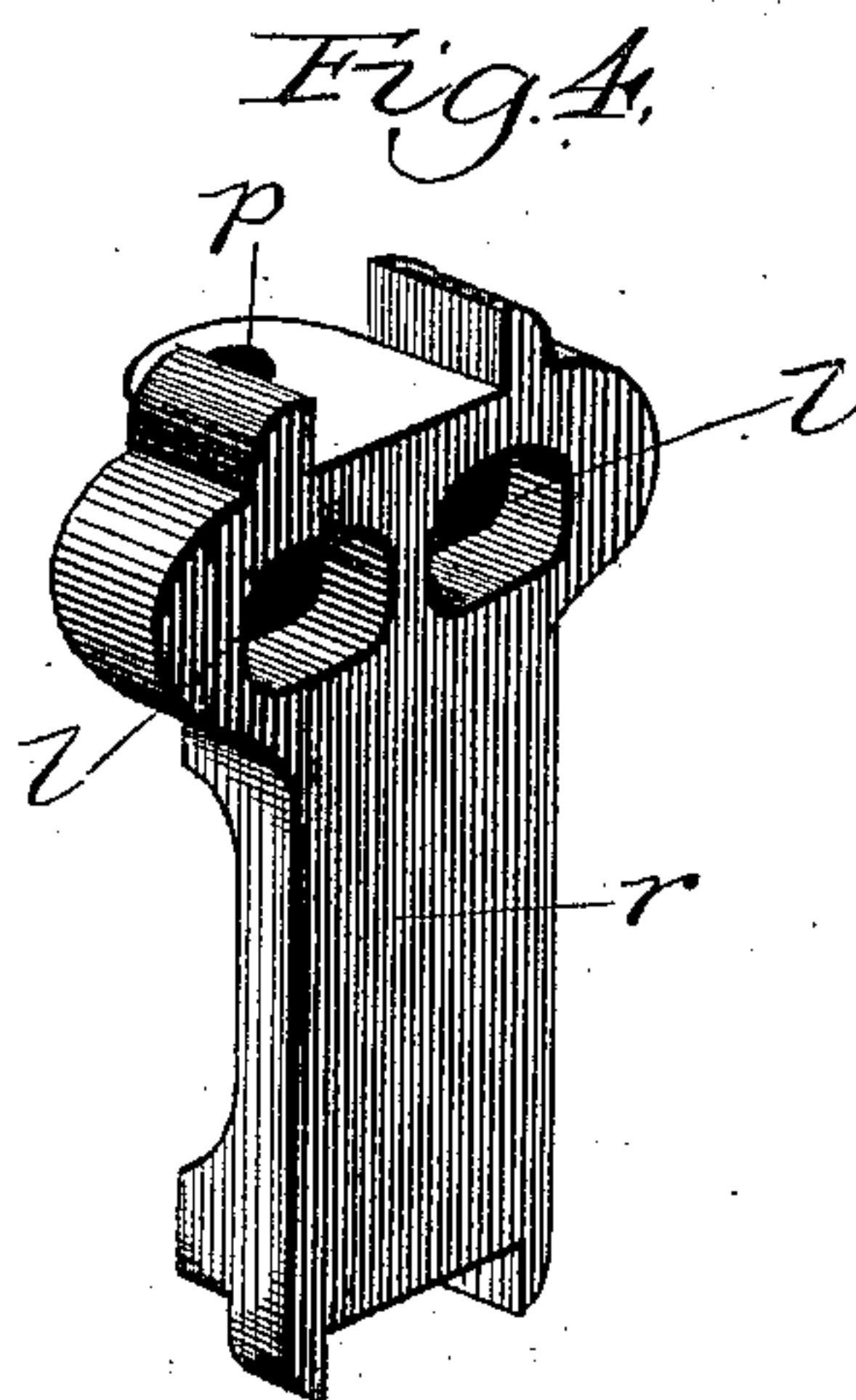
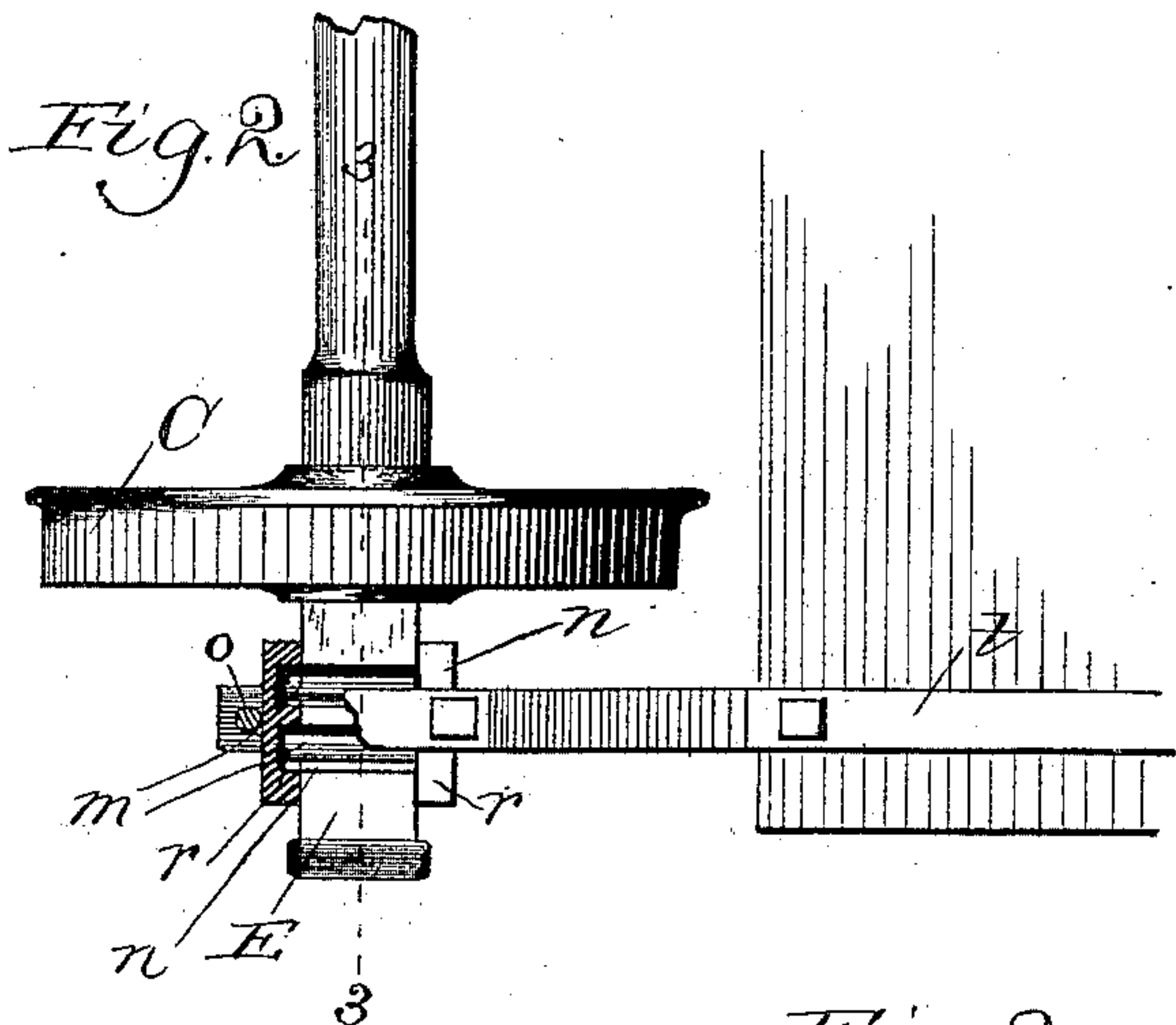
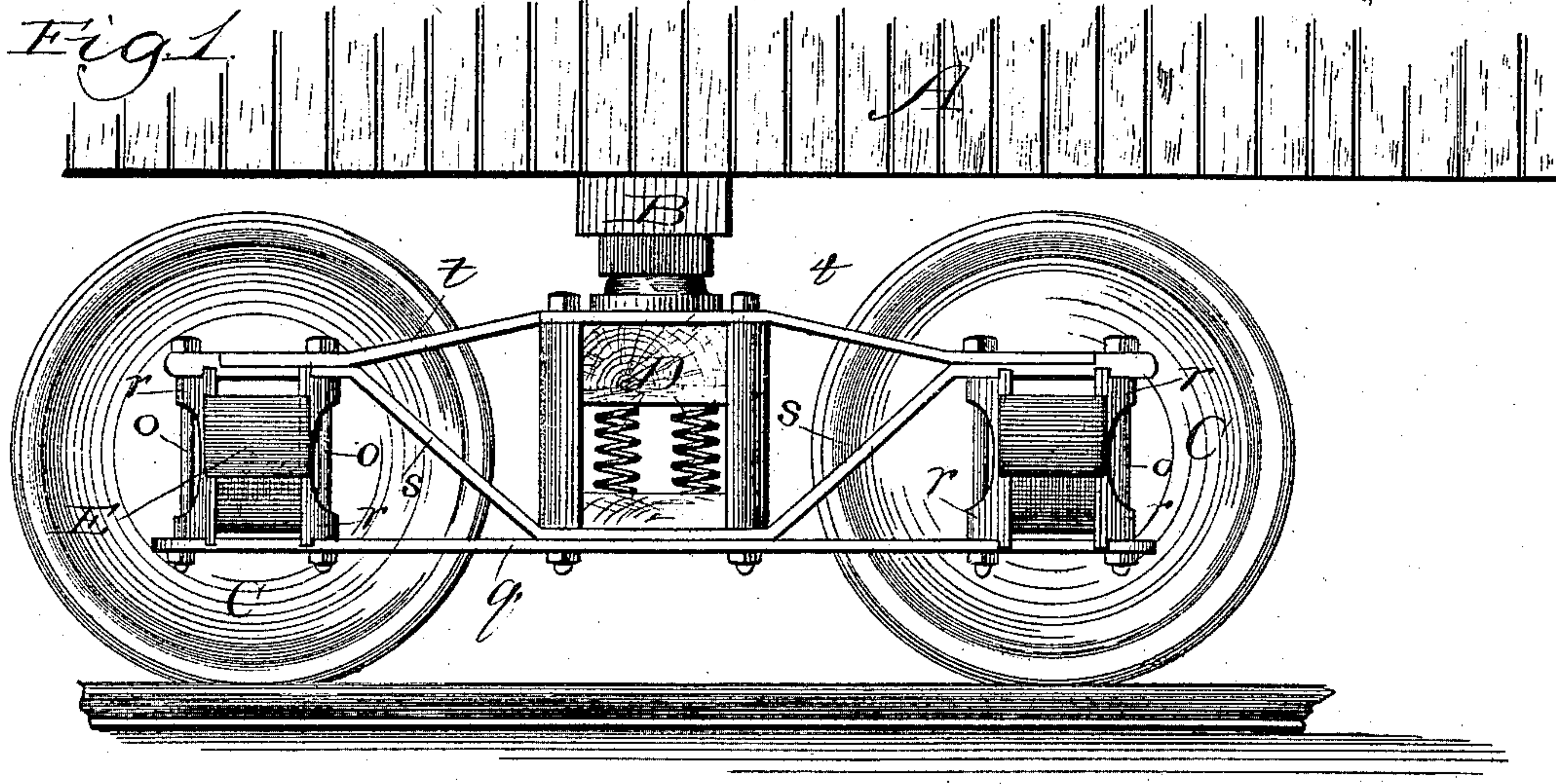
(No Model.)

E. U. BENEDICT.

CAR TRUCK.

No. 309,185.

Patented Dec. 16, 1884.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ELIAS U. BENEDICT, OF AURORA, ILLINOIS.

## CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 309,185, dated December 16, 1884.

Application filed September 18, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ELIAS U. BENEDICT, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Car-Trucks; and I hereby declare the following to be a full, clear, and exact description of the same.

My improvement relates to the class of car-trucks in which provision is made to avoid strain upon the wheels and parts connected with them, particularly when the truck is rounding a curve, and when there are irregularities in the track.

It is my object to accomplish the purpose above mentioned with a device of simple construction, whereby, also, the change in direction of a car while rounding a curve, shall be gradual throughout its length.

To the above ends my invention consists in providing for each pair of wheels a limited independent lateral oscillatory movement; and my invention further consists in certain details of construction and combinations of parts, all as hereinafter particularly set forth.

Referring to the drawings, Figure 1 represents a side elevation of a four-wheeled truck in position upon the bottom of a car, and resting upon the car-track, and provided with my improvement; Fig. 2, a plan view, partly in section, to show a detail of construction of one wheel provided with my improvement; Fig. 3, a sectional view taken on the line 3 3 of Fig. 2, viewed in the direction of the arrows; and Fig. 4, a perspective view of a guide, showing a detail of construction.

A represents a portion of one side of a car supported upon a truck, in the usual manner, by means of the center casting, B, the usual springs, D, being also provided. The side wheels are connected together and confined by a frame of common construction, comprising iron trusses upon each side of the truck, formed of the bar *t*, braces *s s*, guides *r*, and tie *q*. The guides *r* are made concave longitudinally upon a portion of their rear surfaces, and are provided with vertical openings *p*, formed through their thicker parts to admit the rods or bolts *o*, which pass also through the bar *t*, braces *s*, and tie *q* on each side of a journal-box, E, forming the bearing for the latter.

The upper side of each journal-box E is provided transversely with grooves *n*, in each of which lies a roller, *m*, having its ends confined within bearings comprising elongated recesses *l*, straight on their under sides, but curved throughout the remainder of the extent of each, and formed on the inner faces of the heads of the guides *r*. The purpose of the curved form of the upper sides of the recesses *l* and of the grooves *n* is to render the truck self-adjusting by the tendency of the rollers to assume a central position within their bearings, which present to them inclined planes—one above the rollers and the other below. The grooves *n* form stops for the rollers and afford them a limited lateral play.

It will be understood from the foregoing description that as the forward truck begins to follow the line of curve in the track the wheels will be moved laterally in one direction a limited distance, confined by the length of play permitted to the ends of the rollers *m* in the recesses *l*, while the rear truck will be moved in the opposite direction in the same manner, thus producing the change in the direction of the car evenly and gradually, avoiding strain upon the parts of the truck upon the car and upon the track, and lessening to a very great extent the wear upon the ends of the journal-brasses, owing to the fact that in my improvement the axles have no lateral play within their bearings, but oscillate laterally with the bearings.

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

1. In a car-truck, the combination, with the frame which supports the body of the car, of rollers *m* upon the axle-boxes, lying transversely across the same and supporting upon their ends the said frame, and confined between stops which afford them a limited lateral play, substantially as described.

2. In a car-truck, the combination, with the journal-bearings E, provided with suitable stops and guides, *r*, of rollers *m*, journaled within the said guides *r*, whereby each transverse pair of wheels of the truck shall have a limited independent lateral oscillatory movement, substantially as described, and for the purpose set forth.

3. The combination, with the journal-boxes

E of a car-truck, said journal-boxes having transverse grooves *n* formed upon their upper surfaces, of guides *r*, supporting the frame of the truck, and having elongated recesses *l* 5 formed transversely upon the inner faces of the heads of the said guides, and rollers *m* resting within the grooves *n* and journaled

within the said recesses, the whole being constructed and arranged to operate substantially as and for the purpose set forth.

ELIAS U. BENEDICT.

In presence of—

D. J. PEFFERS,

J. W. SKELSEY.