(No Model.) 4 Sheets—Sheet 1.

P. ELLIS.

GEAR FOR ROLLING STOCK.

No. 592,540. Patented Oct. 26, 1897.

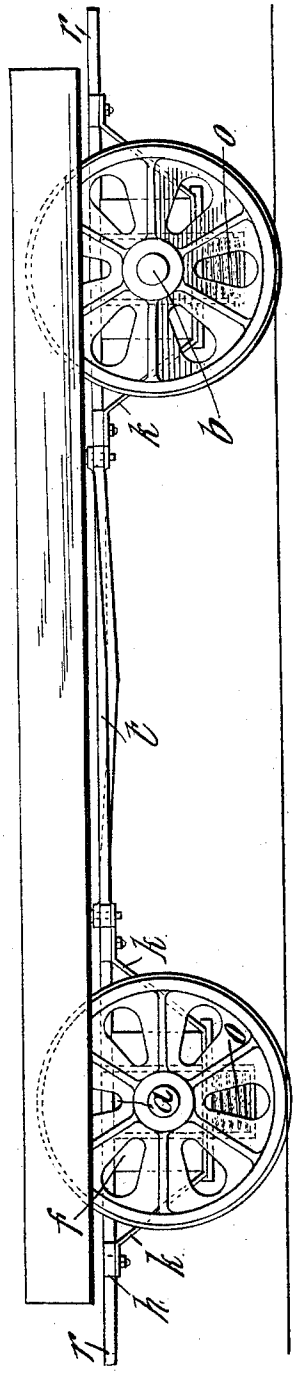


Fig. 1.

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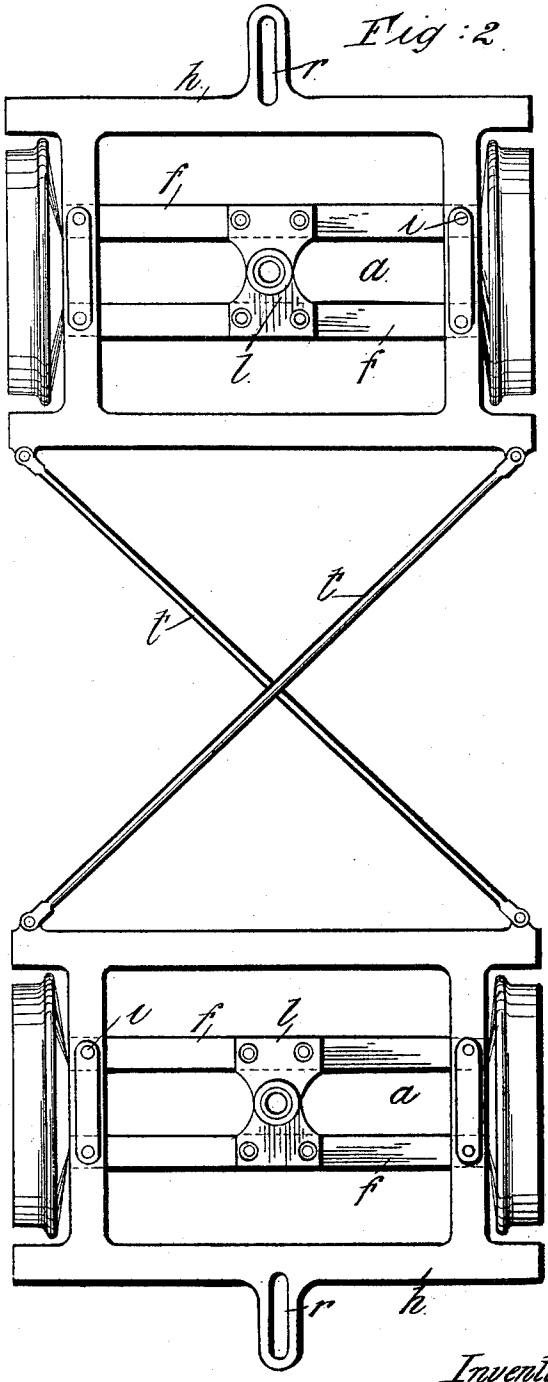
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Fig: 2.



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GEAR FOR ROLLING STOCK.

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Fig: 3.

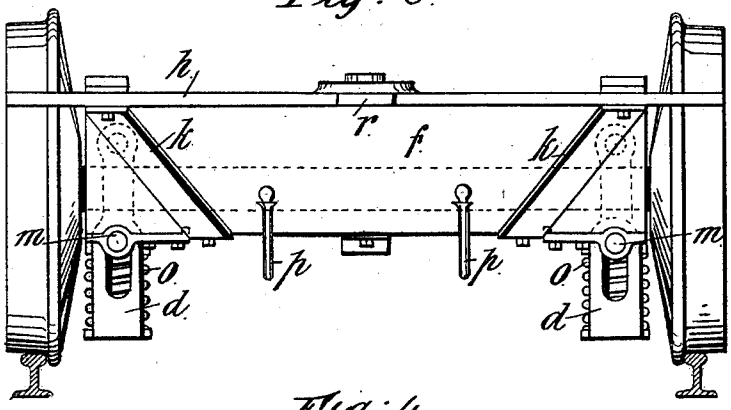
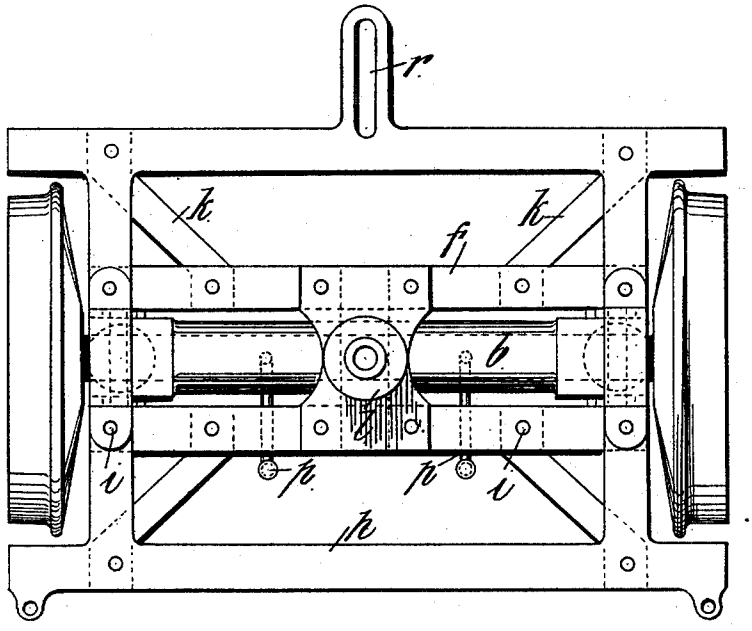


Fig: 4.



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GEAR FOR ROLLING STOCK.

No. 592,540. Patented Oct. 26, 1897.

Fig. 4.

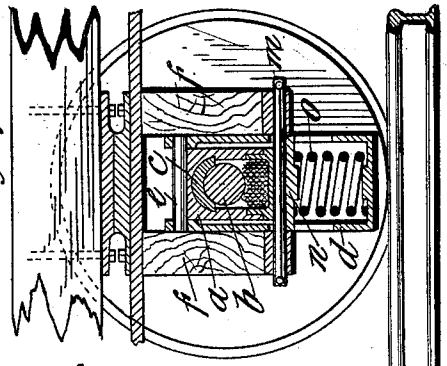


Fig. 6.

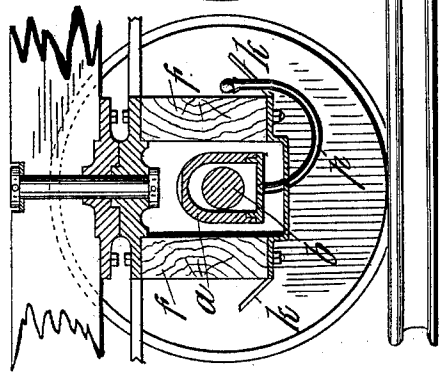
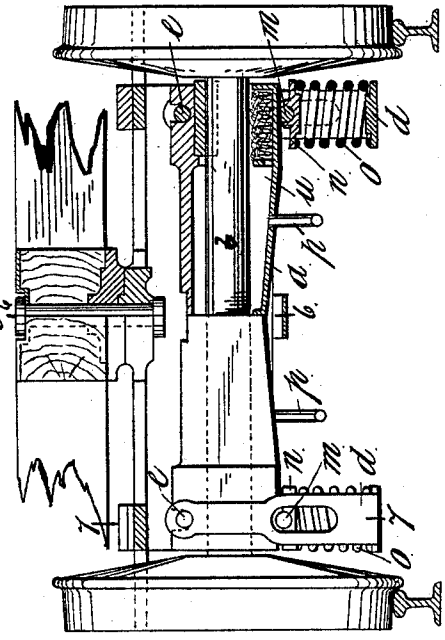


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

PETER ELLIS, OF CHRISTCHURCH, NEW ZEALAND.

GEAR FOR ROLLING-STOCK.

SPECIFICATION forming part of Letters Patent No. 592,540, dated October 26, 1897.

Application filed November 27, 1896. Serial No. 613,689. (No model.)

To all whom it may concern:

Be it known that I, PETER ELLIS, mechanical engineer, a subject of the Queen of Great Britain, and a resident of 71 Cathedral Square, Christchurch, in the provincial district of Canterbury, in the Colony of New Zealand, have invented new and useful Improvements in and Relating to the Under Gear of Rolling-Stock, of which the following is a specification.

This invention relates to the under gear of rolling-stock and provides improvements therein consisting of a "bogie" truck, in which only two wheels are employed upon a single axle, the weight of the vehicle being supported in swing link-hangers which depend from an axle-box in which the axle is journaled at each end, the vehicle being pivoted to the bogie directly over the center of such axle.

The axle-box is tubular, an oil-chamber being thereby formed, and the bottom is made to slope from the middle toward both ends, so that oil will flow down into oil-pans beneath bearing-brasses fitted therein.

Two bogies are employed beneath each vehicle, the frame of one bogie being connected to the frame of the other by crossed connecting-rods, each side of one bogie being connected to the opposite side of the other.

A draw-bar is made integral with or rigidly attached to the frame of each bogie, by means of which it may be steered by a similar draw-bar upon the motor or vehicle immediately preceding it, the angularity given to the wheels of one bogie in relation to the track being transmitted by the crossed connecting-rods to the other bogie in the opposite direction, flange friction and wear and tear of wheels in passing around short curves being thereby greatly diminished.

Referring to the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 a plan, showing the front and rear bogies of a vehicle coupled by crossed connecting-rods. Fig. 3 is an end elevation, and Fig. 4 a plan, showing a method of fixing and staying the bolster-beams to the bogie-frame; Fig. 5, an end elevation, partly in vertical central section; Fig. 6, a transverse section on line 6 6, Fig. 5; and Fig. 7, a transverse section on line 7 7, Fig. 5.

Similar letters of reference indicate the same parts in all the figures.

The axle-box a surrounds the axle b, which has a wheel fixed upon either end, the box extending longitudinally from wheel to wheel and being provided with bearings c, in which the axle is journaled.

A swing link-hanger d is depended from each end of the axle-box a, a swing-hanger pivot e, lying in a recess formed for its reception across the top of the axle-box, engaging in eyes formed in the top of the arms of the swing link-hanger upon each side of the axle-box.

The bolster-beams f are secured to the bogie-frame h by bolts i and by stays k, the bogie center plate l distributing the weight between the bolsters at the middle of the axle.

The bolsters $f\,f$ are located one on each side of the axle-box and are connected at their lower edges by the cross-pieces or bolts $m\,m$, which pass through slots in the hangers and bear upon plates $n\,n$, resting upon the tops of the springs o.

The axle-box is preferably in the shape of an inverted **U**, fitted with an oil-pan u at the bottom, which is arranged to slope toward the outer ends of the axle, and feeders p are provided, through which oil may be passed into the axle-box to lubricate the journals.

A slotted draw-bar r is made integral with each bogie-frame, by means of which it may be steered, and connecting-rods t connect the inside corners of one bogie-frame to the respective opposite corners of the other frame, so that angular movement of one bogie is transmitted to the other in the opposite direction.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In combination, the single axle and wheels, the axle-box, the swing link-hangers depending from each end of said box, the springs in said hangers, and the frame having bolsters upon each side of the axle-box with cross bearing-pieces connecting said bol-

sters and bearing upon the springs, substantially as described.

2. In combination, the axle and wheels, the axle-box, the swing link-hangers depending from each end of said box, the springs carried in the lower portion of said hangers, the frame having bolsters upon each side of the axle, the cross bearing-pieces extending through slots in the hangers and having their ends connected to the bolsters, and bearing-plates located between the springs and cross-pieces, substantially as described.

Dated this 6th day of October, 1896.

PETER ELLIS.

Witnesses:
HENRIE H. RAYWARD,
W. CUMING.