(No Model.)

J. H. WHITING.

ROTARY MOTION TRANSMITTER FROM CAR AXLES.

No. 598,189. Patented Feb. 1, 1898.

Fig. 1.

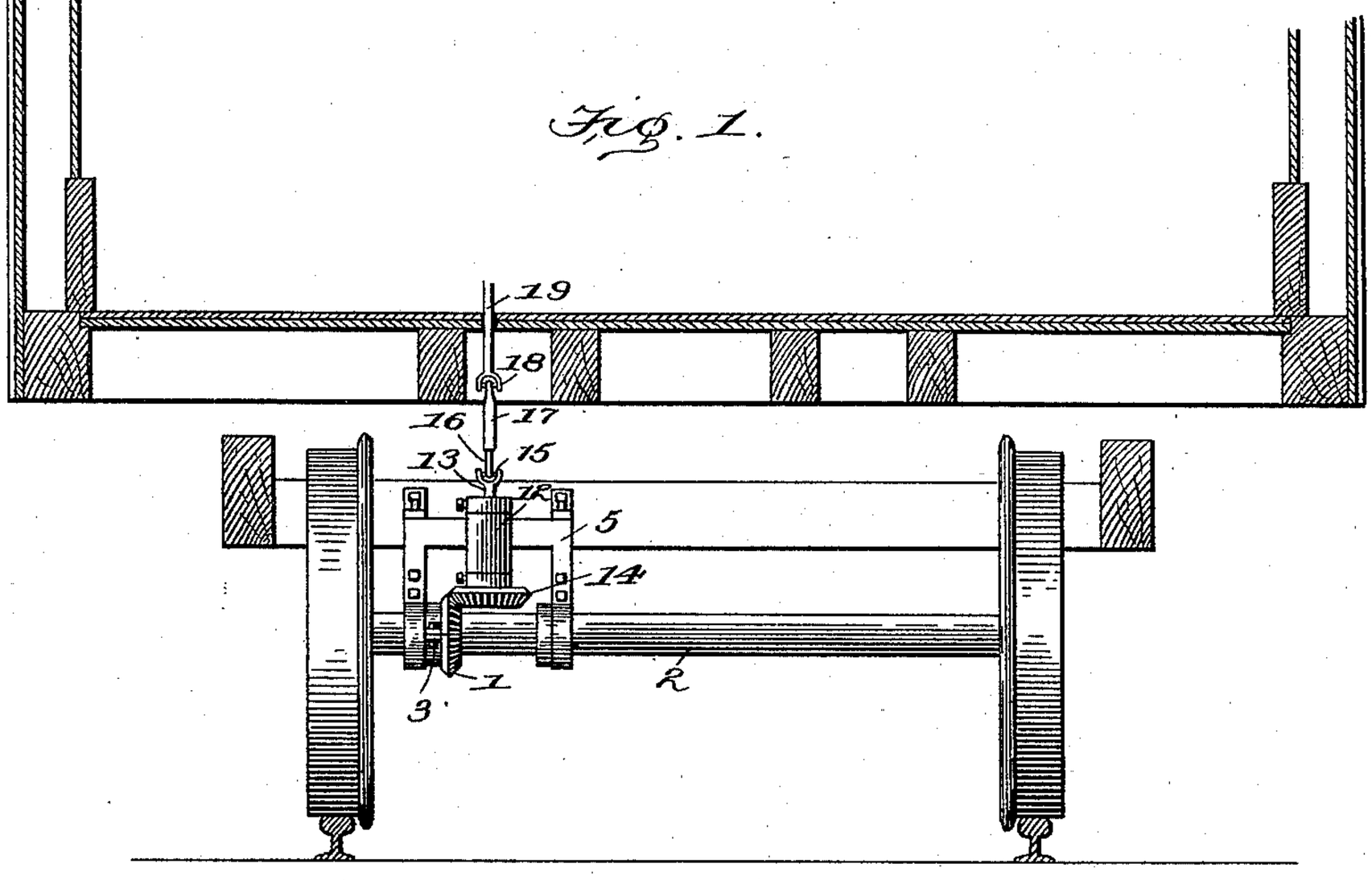


Fig. 4.

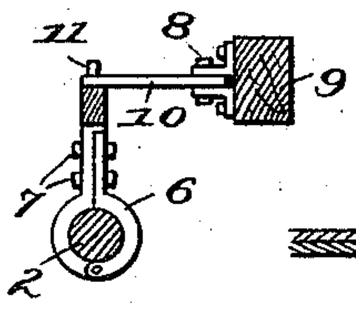


Fig. 3.

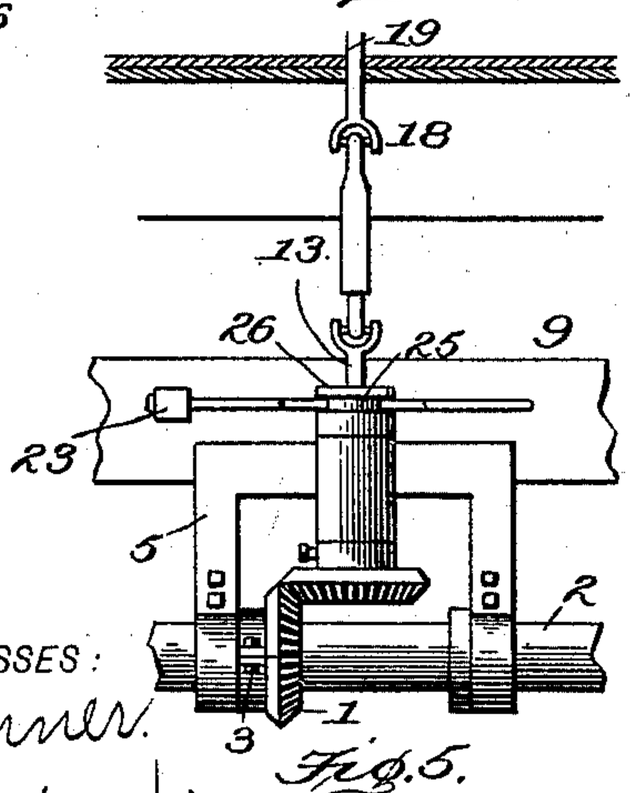


Fig. 2.

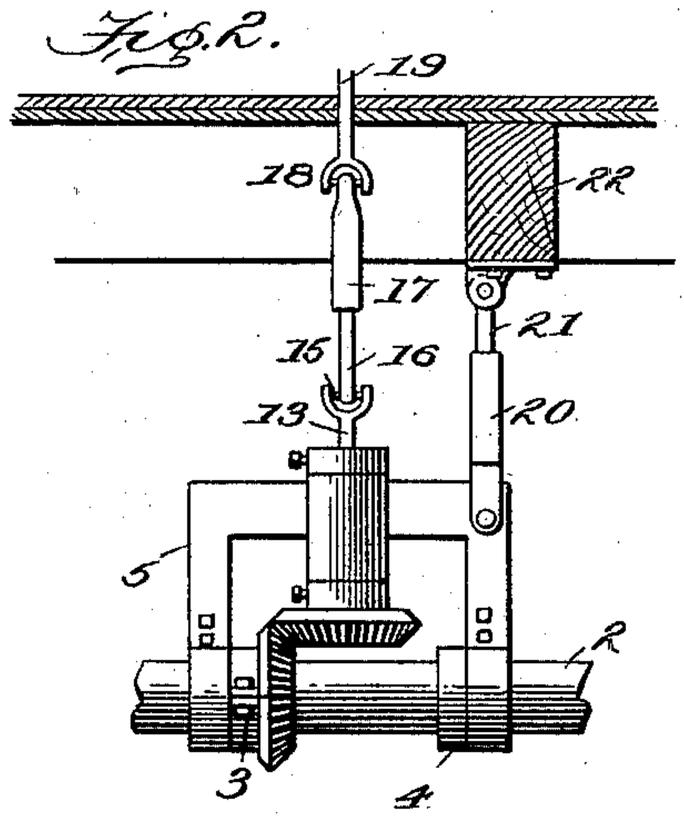
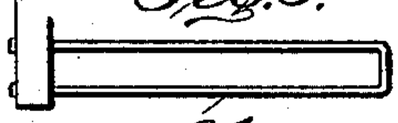


Fig. 5.



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ROTARY-MOTION TRANSMITTER FROM CAR-AXLES.

SPECIFICATION forming part of Letters Patent No. 598,189, dated February 1, 1898.

Application filed May 19, 1897. Serial No. 637,272. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. WHITING, a citizen of the United States, residing at Belvidere, in the county of Boone and State of Illinois, have invented a certain new, useful, and valuable Improvement in Rotary-Motion Transmitters from Car-Axles, of which the following is a full, clear, and exact description.

My invention has relation to a device adapted to transmit rotary motion from revolving car-axles, &c., to the interior of the car; and it consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of my present invention is to provide a means for connecting a cog-wheel located on the car-axle with a cog-wheel attached to the lower end of the shaft which extends into the car.

The further object of my invention is to so connect the cog-wheels that they cannot disengage from each other even though the axle have a slight or great longitudinal movement.

My invention is designed especially to be used in connection with odometers, and especially with such a device covered by my application of March 13, 1897, Serial No. 627,388; but the present device may be used for many other purposes where it is desired to obtain a revolving motion within the body of the car, said motion to be imparted from the revolving axle.

In the accompanying drawings, Figure 1 is a transverse sectional view of a railway-car, showing my invention located thereon. Fig. 2 is a transverse sectional view of a portion of the car, showing a modified form of my invention. Fig. 3 is a transverse sectional view of a portion of the car, showing still another modified form of my invention. Fig. 4 is a transverse sectional view of the truck-beam, showing a hanger connected thereto. Fig. 5 is a top plan view of a modified form of the hanger.

The beveled cog-wheel 1 is split, and the two sections of the said wheel are permanently held together and in close contact with the axle 2 by the bolts 3. A collar 4 is also permanently fixed to the axle 2. Said collar may also be split and be applied to the axle in a manner similar to that of the beveled cog-wheel 1. The yoke 5 bears at its downwardly-extending ends laterally against the shank of the cog-wheel 1 and against the face of the collar 4. Thus as the cog-wheel 1 and the collar 4 move laterally the yoke 5 is also moved. The downwardly-extending ends of the yoke 5 are provided with the hinged sections 6, as shown in Fig. 4. Said sections 6, together with the lower ends of the yoke, surround the axle 2, and the end of the section 6 is screwed to the yoke proper by means of the bolts 7. There is sufficient play between the section 6 and the end of the yoke to allow the free revolution of the axle. The lugs 8 8 are fixed to the truck-beam 9, and the inner end of the arm 10 is pivoted between the lugs 8. The outer end of the arm 10 is pivoted at the point 11 to the upper edge of the yoke 5. The description thus given applies to the form of the invention as shown in Figs. 1 and 4.

A perpendicular bearing 12 is provided in the horizontal section of the yoke 5, and the shaft 13 is journaled in the said bearing 12. The beveled cog-wheel 14 is permanently fixed to the lower end of the shaft 13, and said cog-wheel 14 is adapted at all times to mesh with the beveled cog-wheel 1. The perpendicular shaft 13 is connected by means of a universal joint 15 with the pin 16, the upper end of the pin 16 being received within the collar 17, said pin adapted to play up and down in the said collar. The universal joint 18 connects the collar 17 with the perpendicular shaft 19, the last said shaft 19 passing through the floor of the car.

It will be seen that as the relative perpendicular position of the body of the car and the axle 2 changes the pin 16 and the collar 17 will compensate therefor. It will also be seen that as the alinement between the body of the car and the trucks changes—that is, as done when the car is passing around curves—the universal joints 15 and 18 and the pin 16 and the collar 17 will compensate therefor. It will also be seen that should the axle 2 slip longitudinally in its bearings the yoke 5 will follow the lateral movement of the axle and at all times retain the cog-wheel 14 in mesh with the cog-wheel 1.

In the form of the invention as shown in Fig. 2 the yoke 5 is held in an upright position by means of the sleeve 20, said sleeve

being pivoted at its lower end to the yoke. The pin 21 enters said sleeve and is adapted to play up and down therein. The pin is pivoted at its upper end to the beam 22 of the floor of the car. It will thus be seen that the yoke 5 is supported, as shown in Fig. 2, can have a lateral movement, and thus follow any lateral play of axle 2.

In the form of the invention as shown in Figs. 3 and 5 the yoke is held in an upright position by means of the arm 23, said arm being attached at one end to the truck-beam 9. The said arm 23 is provided with a guide 24, said guide being preferably made of a spring-rod formed in the shape of an elongated U, and said guide being secured at both its ends to the arm 23 the guide passes in the annular recess 25 of the collar 26, said collar 26 being located on the perpendicular shaft 13. It will thus be seen that with the form of the invention as shown in Fig. 3 the yoke 5 will be permitted to have a slight lateral movement, and thus it can follow any lateral movement of the car-axle 2 and retain at all times the cog-wheel 14 in mesh with the cog-wheel 1.

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

1. A device adapted to transmit rotary motion from revolving axles consisting of a cog-wheel fixed to the axle and a collar fixed to the axle, a yoke embracing said cog-wheel and collar, said yoke having a bearing, a shaft passing through said bearing, a cog-wheel fixed to said shaft, said cog-wheel adapted to mesh with a cog-wheel on the axle, a sleeve pivotally attached to said yoke, a pin pivotally attached to the body of the car, said pin entering said sleeve and adapted to retain the yoke in an upright position, said pin adapted to play in and out in said sleeve.

2. A device adapted to transmit rotary motion from revolving car-axles, consisting of a cog-wheel fixed to the axle, a collar also fixed to the axle, a yoke embracing said collar and cog-wheel, said yoke having a lateral play, a shaft passing through said yoke, a cog-wheel fixed to said shaft, said yoke adapted to retain the said cog-wheels at all times in mesh with each other, the ends of the yoke having hinged sections, the said sections in conjunction with the ends of the yoke adapted to loosely surround the car-axle, a suitable means for securing the free ends of the hinged sections to the ends of the yoke.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. WHITING.

Witnesses:
A. W. HOPKINS,
F. J. BRANNAN.