

No. 706,585.

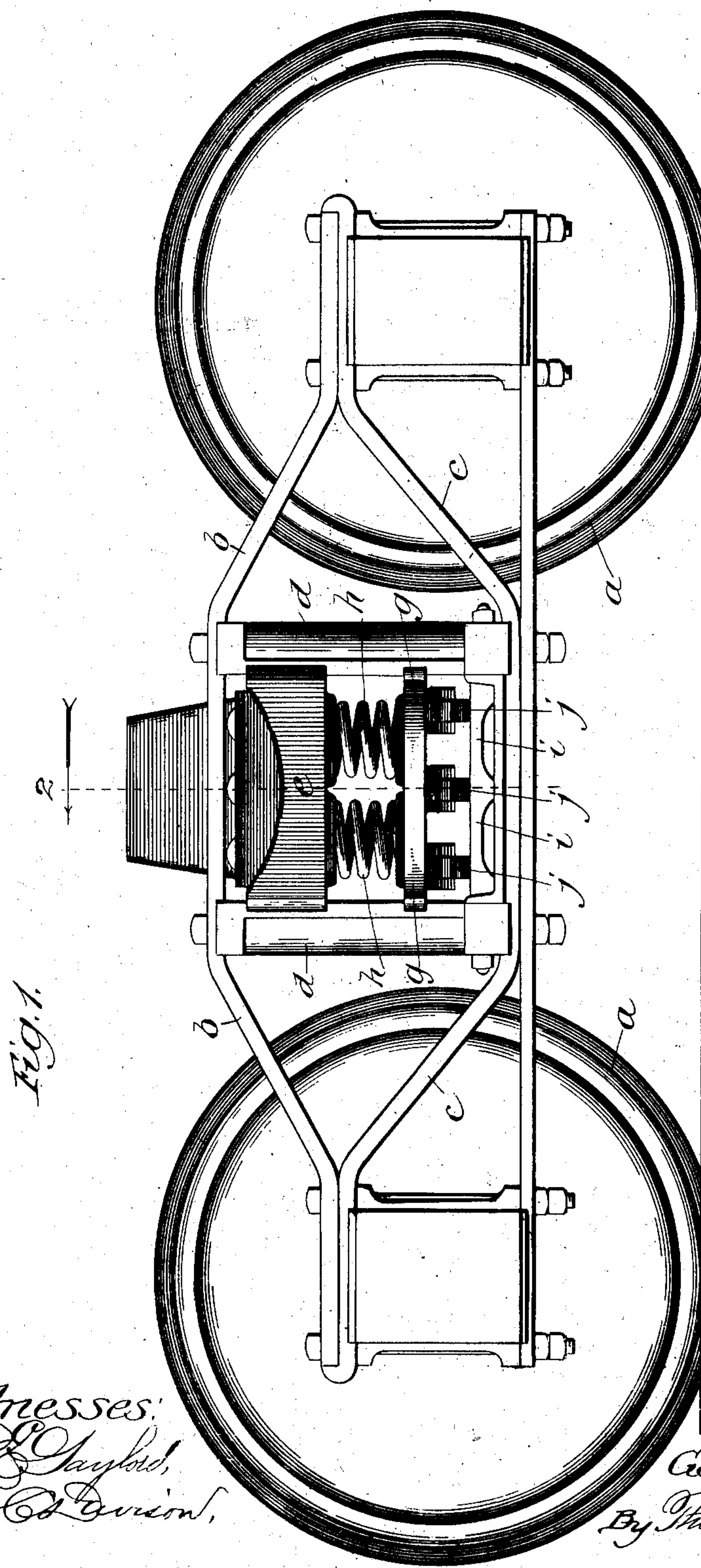
Patented Aug. 12, 1902.

G. C. MURRAY.  
CAR TRUCK.

(Application filed Mar. 11, 1902.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
Ed. J. Taylor,  
Geo. C. Davison,

Inventor:  
George C. Murray,  
By Thomas J. Sherman  
Att'y.

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2 Sheets—Sheet 2.

Fig. 3.

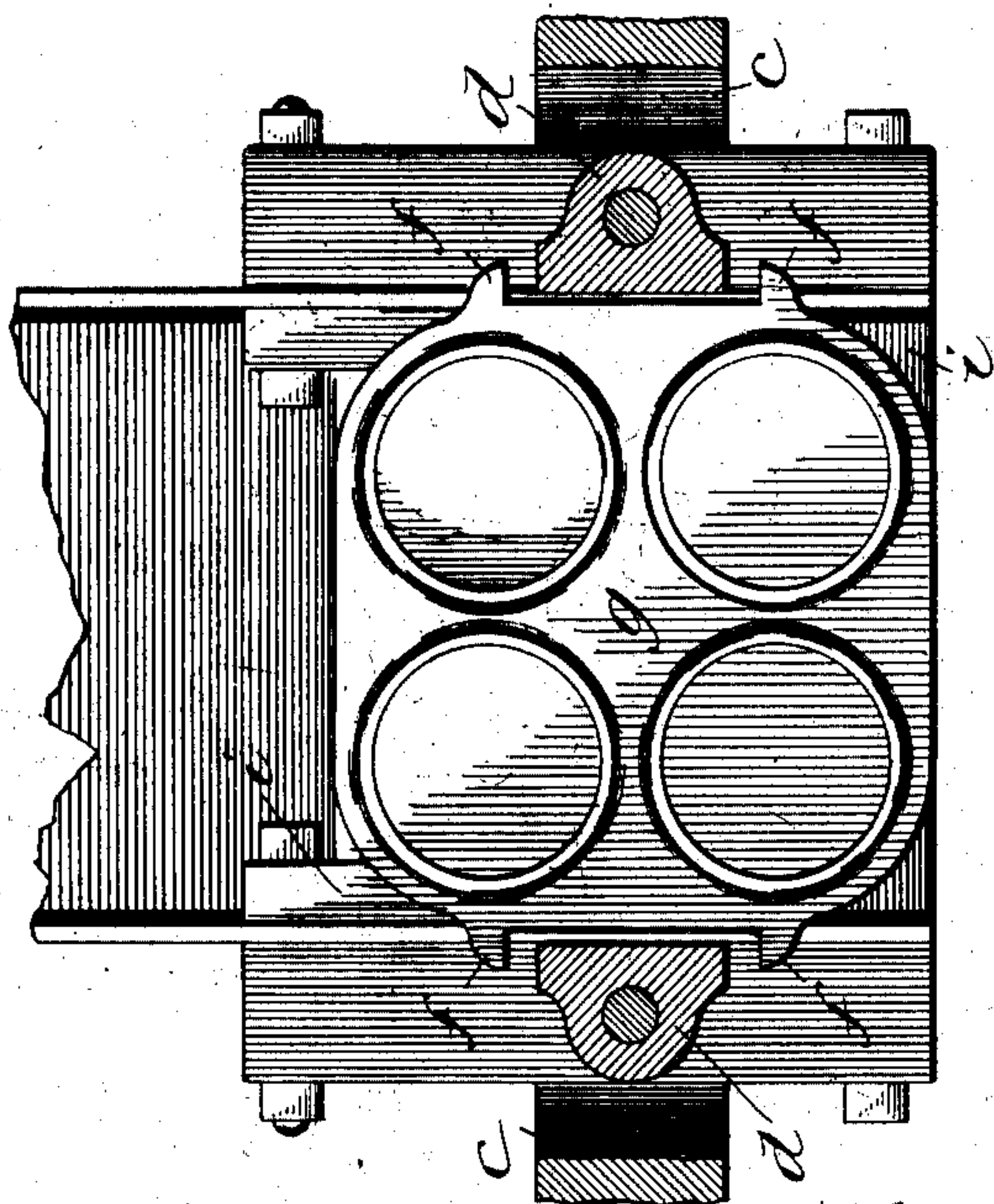
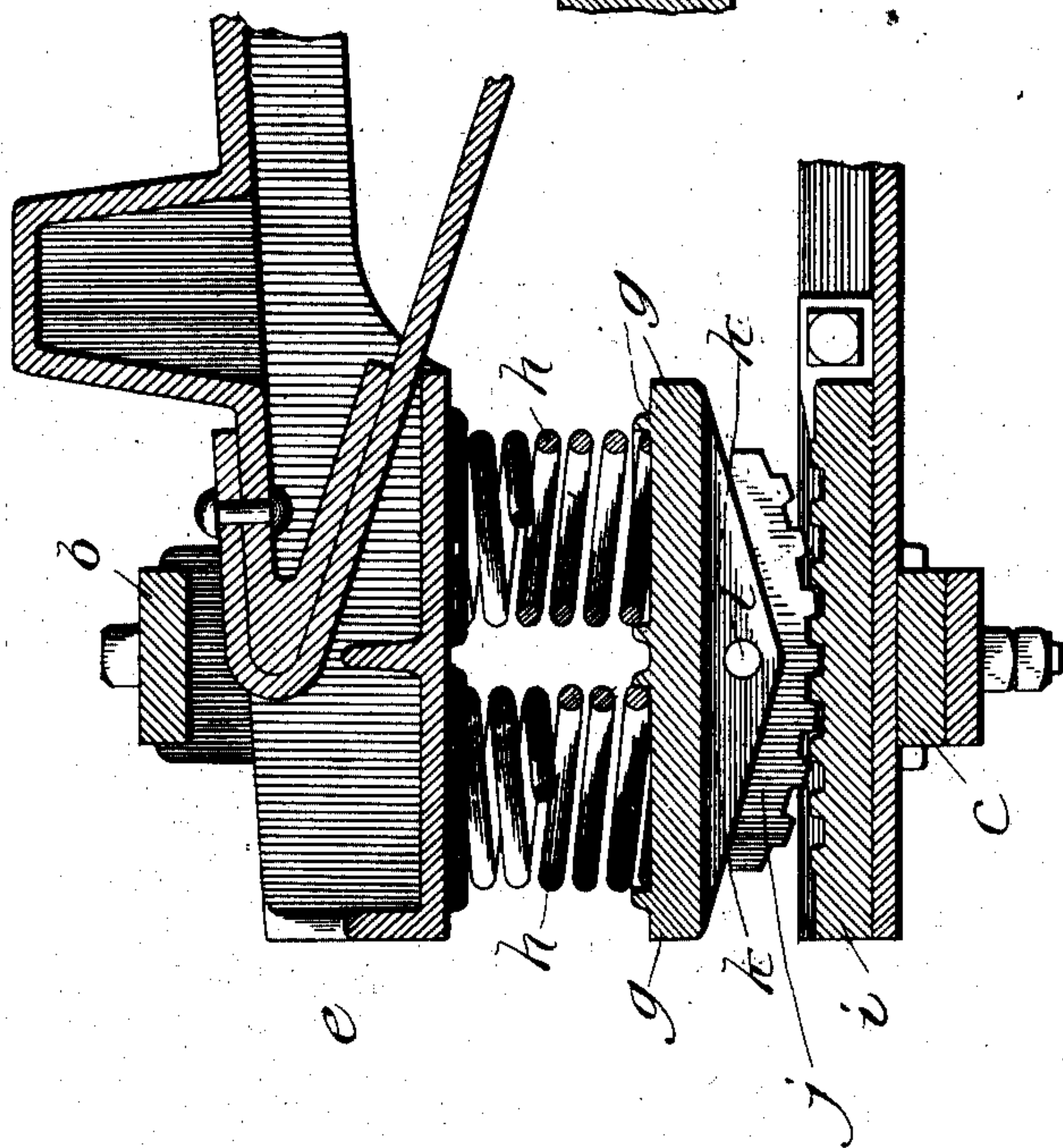


Fig. 2.



Witnesses,  
Ed. C. Paylor,  
Geo. C. Lanyon,

Inventor:  
George C. Murray  
By Thomas F. Sheridan,  
Att'y



# UNITED STATES PATENT OFFICE.

GEORGE C. MURRAY, OF CHICAGO, ILLINOIS.

## CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 706,585, dated August 12, 1902.

Application filed March 11, 1902. Serial No. 97,739. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE C. MURRAY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

This invention relates to that class of car-trucks which is used in connection with railway-cars, and particularly to the arrangement and disposition of the swinging spring-seats by which the lurching movements of the ends of the car and the endwise movement of the bolster may take place without racking or destroying any of the parts, all of which will be more fully hereinafter set forth.

The principal object of the invention is to provide a simple, economical, and efficient car-truck with rocking devices by which the car-bolster may be efficiently held in position.

The invention consists principally in a car-truck in which there are combined transom or bolster columns, a bolster movably mounted between the same, a spring-seat, and a plurality of rocking devices arranged directly under the spring-seat and pivotally connected therewith for holding the same in position.

The invention consists, further, in a car-truck in which there are combined the usual bolster or transom columns connected by and with the usual arch-bars, a bolster endwise movably mounted between the same, a spring-seat, a plurality of rockers pivotally connected to the spring-seat directly under the same and arranged to contact the same and permit a limited movement only thereof, and spring mechanism mounted between the spring-seat and the bolster.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a car-truck constructed in accordance with these improvements; Fig. 2, a sectional elevation of a portion of the mechanism, taken on line 2 of Fig. 1 looking in the direction of the arrow; and Fig. 3, a plan sectional view taken on line 3 of Fig. 4.

In the art to which this invention relates it is well known that the bolster of a car when taking a curve, particularly when there is lit-

tle or no flexure to the body of the car, in order to accommodate itself to the different positions assumed by the body of the car incident to the lurching thereof is forced from side to side or endwise of the bolster, so as to displace the parts. If no mechanism is provided for the compensation of this lurching of the usual members of the car construction, the endwise thrust on the bolster and parts with which it is engaged is apt to result in the rapid wear, if not destruction, of some of these parts.

The principal object of this invention, therefore, is to provide a truck of such construction and arrangement that the car-bolster has a limited rocking movement, and, further, so constructed as regards the details thereof that there is a tendency for the parts to resume their normal position when the car is running in its usual or ordinary manner, all of which will more fully hereinafter appear.

In constructing a truck in accordance with these improvements—one which is provided with the usual supporting car-wheels *a* and upper and lower arch-bars *b* and *c*—I provide a pair of transom or bolster columns *d* and secure them to and between such arch-bars, all in the usual manner. I next provide a car-bolster *e* of any desired construction, having vertical safety-flanges *f* on each side at or near the ends thereof, forming channels which are slightly wider than the bolster-columns. This construction permits a limited amount of endwise motion of the bolster. The flanges and grooves are not necessary in this construction, as part of the invention is to provide means by which these vertical flanges may be dispensed with, all of which will more fully hereinafter appear, but may be used as a factor of safety in case the other devices fail to act or become worn.

In order to provide for a rocking and yielding motion of the bolster in the desired manner, I make spring-plates *g* and arrange them under the ends of the bolster and between the bolster-columns. Intermediate the ends of the bolster and the spring-plate are a plurality of helical coiled springs *h*, which yieldingly support the bolster in its position. Immediately under the spring-plates and connected to the base of the bolster-columns are platforms *i*, the upper surfaces of which are



toothed, as shown in Fig. 2, and pivotally connected with such spring-plates and rockingly mounted on such platforms are a plurality of rockers *j*, the curves of which are  
 5 "struck" from a radii greater than the distance to the pivotal point. These rockers, as shown, are inclined or curved each way and downwardly from the pivotal points, so as to provide heeled ends *k*, which when the  
 10 limit of rocking motion is reached strike against the under side of the spring-plates and prevent further endwise as well as rocking movement of the parts. It will be seen, therefore, that the rockers form stops as well  
 15 as rockers and, as hereinbefore suggested, may be used in place of the vertical flanges on the bolster ends. The pivotal connections between the rockers and the spring-plates are formed by means of shafts *l*, which are forced  
 20 through perforations in both parts.

I claim—

1. In a car-truck of the class described, the combination of bolsters or transom-columns, a bolster movably mounted between the same,  
 25 a spring-plate under each end of the bolster and between the bolster-columns, a platform arranged between the lower ends of such columns under each spring-plate, a plurality of rockers extending parallel with each other  
 30 transversely of the car arranged directly under and attached to the spring-plates supporting the same and supported on the platform, and spring mechanism interposed between the bolsters and the spring-plates, substantially as described.

2. In a car-truck of the class described, the combination of bolsters or transom-columns, a bolster mounted between the same, spring-plates under the ends of the bolsters and be-  
 40 tween the bolster-columns, a toothed platform arranged between the lower ends of each pair of bolster-columns in fixed relation thereto, toothed rockers extending transversely of the car arranged directly under and  
 45 pivotally attached to the spring-plate and supported on the toothed platform, and spring mechanism between the bolsters and the spring-plates and means for stopping the

rocking movement of the rockers and thereby the end thrust of the bolster, substantially as  
 50 described.

3. In a car-truck of the class described, the combination of bolsters or transom-columns, a bolster movably mounted between the same, spring-plates under each end of the bolsters  
 55 and between the bolster-columns, spring mechanism between the bolsters and the spring-plates, platforms arranged underneath the spring-plates and between the bolster-columns, and rocker mechanism pivotally  
 60 connected to the spring-plates mounted upon the platforms and provided with heeled ends which act as stops, substantially as described.

4. In a car-truck of the class described, the combination of bolsters or transom-columns,  
 65 a bolster movably mounted between the same, spring-plates under each end of the bolster and between the bolster-columns, spring mechanism between the bolster and the spring-plates, a toothed platform under each  
 70 spring-seat arranged between the lower ends of the bolster-columns, and a plurality of elongated toothed rockers pivotally connected with the under side of the spring-plates to rockingly support the same and act as stops  
 75 to the movement thereof, substantially as described.

5. In a car-truck of the class described, the combination of bolsters or transom-columns, a bolster movably mounted between the same,  
 80 spring-plates under each end of the bolster and between the bolster-columns, spring mechanism between the bolster and the spring-plates, a toothed platform under each spring-seat arranged between the lower ends  
 85 of the bolster-columns, a plurality of elongated toothed rockers pivotally connected with the under side of the spring-plates to rockingly support the same and act as stops to the movement thereof, and shafts for pivotally connecting the spring-plates and rockers together, substantially as described.

GEORGE C. MURRAY.

Witnesses:

THOMAS F. SHERIDAN,  
 HARRY IRWIN CROMER.