B. BANYAY.

DRAFT GEAR AND COUPLING

APPLICATION FILED SEPT. 26, 1908.

924,028.

Patented June 8, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

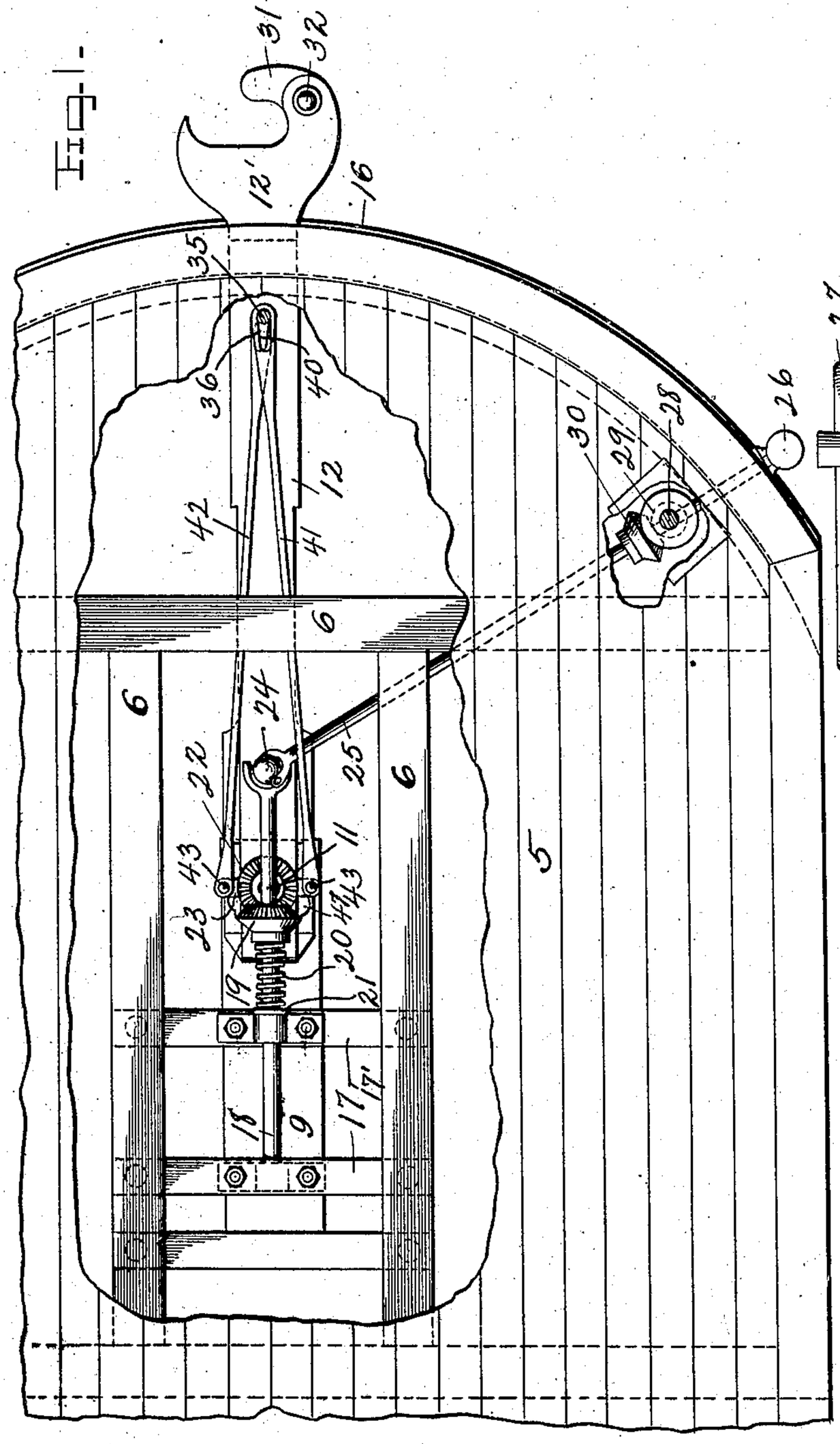
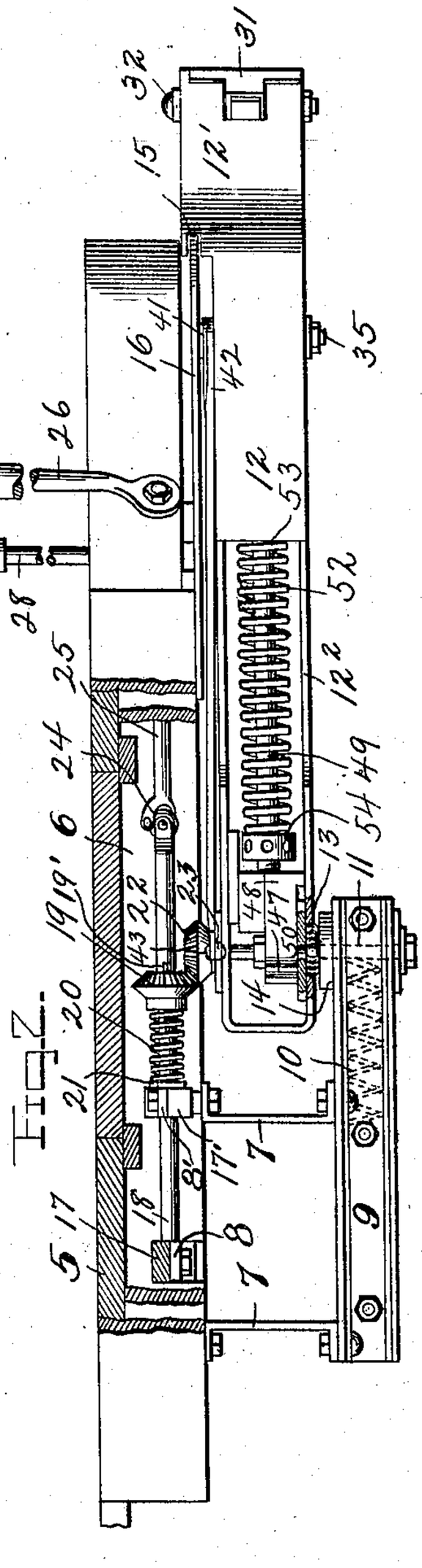


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

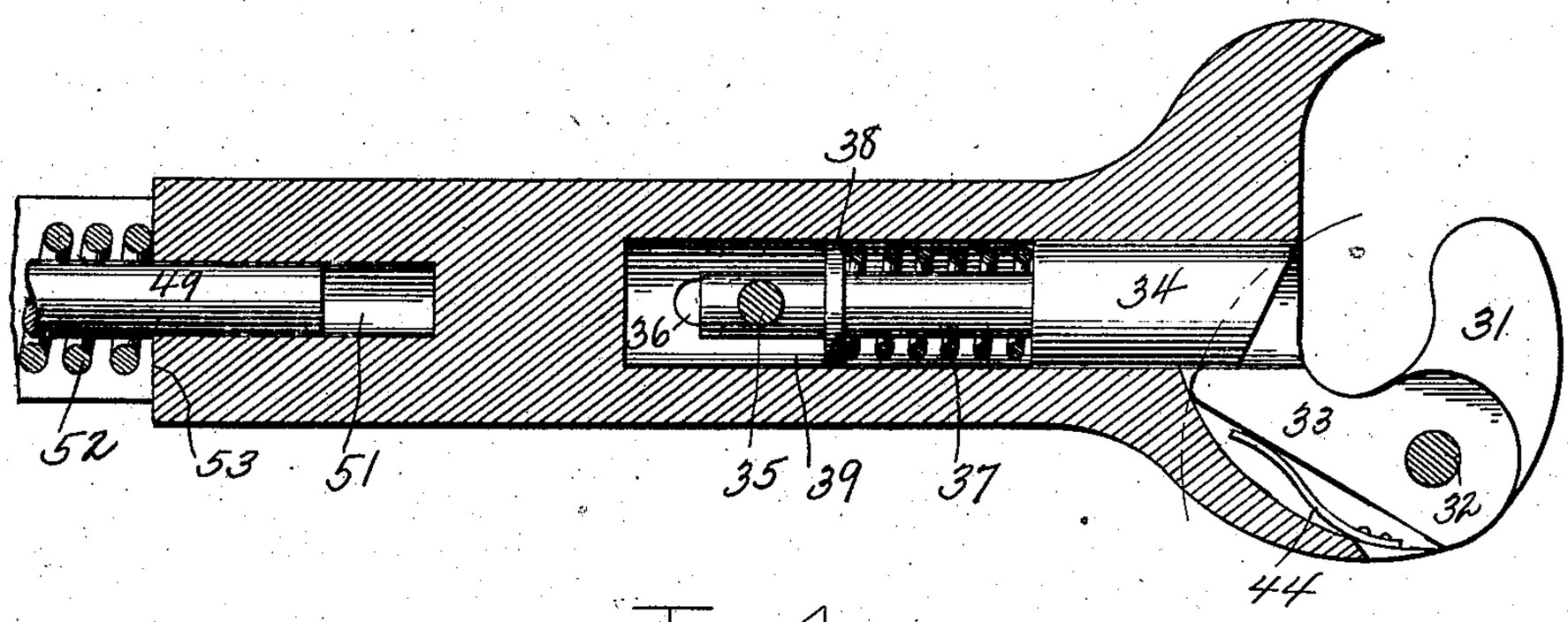


Fig. 4.

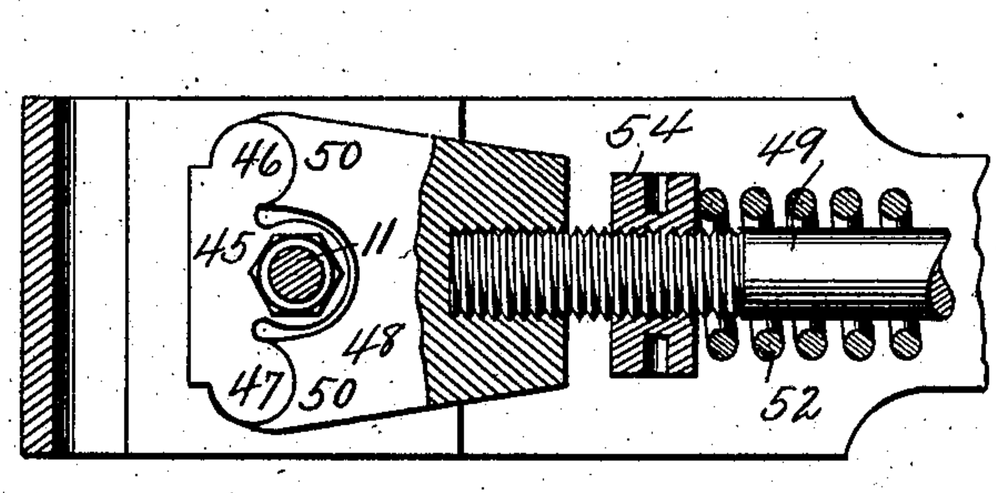
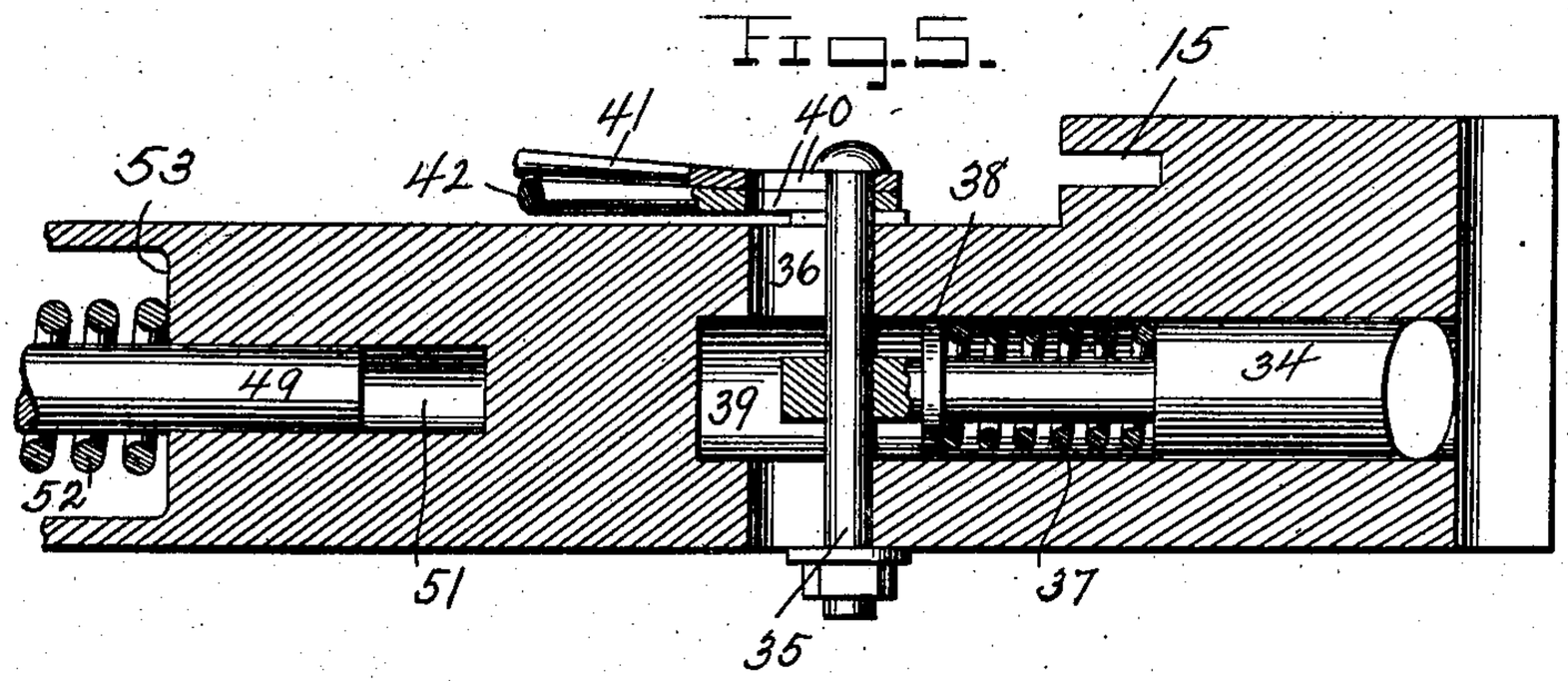


Fig. 5.



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UNITED STATES PATENT OFFICE.

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DRAFT-GEAR AND COUPLING.

No. 924,028. Specification of Letters Patent. Patented June 8, 1909.

Application filed September 26, 1908. Serial No. 454,869.

To all whom it may concern:

Be it known that I, BENJAMIN BANYAY, a subject of Hungary, residing at Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Draft-Gear and Couplings, of which the following is a specification.

My invention relates to a draft gear and coupling primarily designed for use upon street cars though it may be used upon railway cars, if desired.

The object of the invention is to provide a device of this character comprising a buffer for the device as a whole, means tending to hold the draw bar in longitudinal alinement with the body of the car, and means controllable either from the ground or from the front platform of the car, said means being adapted to release the locking knuckle of the coupling.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawings, Figure 1 is a plan view of the front end of a street car broken away to illustrate the parts located there beneath, Fig. 2 is a view partly in vertical section and partly in side elevation of the front end of said platform, Fig. 3 is an enlarged horizontal section through the front end of the draw bar, Fig. 4 is a horizontal section through the rear end of the draw bar, and Fig. 5 is a vertical section through the front end of the draw bar.

Like numerals designate corresponding parts in all of the figures of the drawing.

Referring to the drawings, the numeral 5 designates a portion of the floor of the front platform of a street car, said floor being supported upon sills 6. Transverse channel irons 7 are secured to the under side of these sills by bolts and these channel irons in turn support a draft buffer 9. A spring 10 is located in and forms a part of the buffer 9, said spring receiving the rear thrust of a king bolt 11. The draw bar 12 is pivotally mounted upon this king bolt and antifriction devices 13 are interposed between the draw bar and the upper face of a collar 14. The draw bar 12 swings upon the king bolt 11, said draw bar being cut out as at 15 to form a recess for the reception of the outer edge of an arcuate plate 16, said plate being carried by the front edge of the platform. This plate serves as a guide and support for the outer end of the draw bar. Transverse bars 17, 17′ extend between the sills 6 and said bars carrying bearing blocks 8, 8′ of a shaft 18. A bevel pinion 19 is splined as at 19′ upon this shaft in such manner that it will rotate therewith though capable of longitudinal movement with relation thereto. A spring 20 is coiled about the shaft 18 in the rear of the bevel pinion 19 and bears between said pinion and a collar 21. This spring serves to maintain the bevel pinion 19 always in mesh with a bevel pinion 22 which is fast with a transverse arm 23 and is mounted to rotate freely upon the king bolt 11. The shaft 18 has a universal connection 24 with a shaft 25 the outer end of this shaft passing through the front of the platform and having a hand lever 26 secured thereon. By means of this lever the operator standing upon the ground may impart a partial rotation to the shaft 25 in either direction for a purpose hereinafter described.

A hand wheel 27 is fast upon a stem 28 which passes through the platform and which has a bevel pinion 29 upon its lower end. This bevel pinion meshes with a bevel pinion 30 of the shaft 25. It will therefore be seen that movement of the hand wheel will impart movement to the shaft 25, said hand wheel being accessible to a person standing upon the platform 5.

The draw bar comprises the coupler head 12′ and the rearwardly extending U shaped portion 12^2, and it is this U shaped portion through which the king bolt 11 passes. The coupler is of the Janney type and comprises the head 12′ and the movable knuckle 31 which is pivotally mounted at 32, in the coupler head 12′. As is best illustrated in Fig. 3, the knuckle 31 is provided with a tail 33 which is adapted to be engaged by a latch bolt 34. This bolt carries a vertically disposed pin 35 at its rear end, said pin traveling in a slot 36 of the draw bar. A coil spring 37 bears between the enlarged front portion of the bolt 34 and the collar 38, said collar being fixed within the bore 39 and the reduced rear end of the bolt 34 sliding freely through this collar. The slotted ends 40 of links 41 and 42 engage the upper end of the pin 35 and the rear end of these links are pivotally connected at 43 to the outer ends of the transverse arm 23. It will therefore be seen that when a partial rotation is imparted to shaft 18, by the actuation of either the hand lever 26 or the hand wheel 27, a partial rotation will in like manner be imparted to the pinion

22. This will rock the arm 23 in one direction or the other, to cause one of the links 41 and 42 to draw the pin 35 rearwardly against the tension of spring 37 and release the tail 33 of knuckle 31. As soon as this tail is released, a flat spring 44 throws the knuckle outwardly to release the coupling.

The parts so far described relate to the means for releasing the coupling from a distant point and for applying a buffing spring to the draw bars as a whole. The means for normally holding the draw bar in longitudinal alinement with the body of the car will now be described.

Referring particularly to Fig. 4, it will be seen that the king bolt 11 has a block 45 rigidly fixed thereto. Upon opposite sides of the king bolt this block carries shoulders 46 and 47. A block 48 is mounted upon the rear end of a rod 49, said block having recessed shoulders 50 which lie in engagement with the shoulders 46 and 47 when the draw bar is in longitudinal alinement with the car body. The front end of the rod 49 is slidably disposed in an opening 51 of the front portion of the draw bar and a comparatively heavy spring 52 bears between the end 53 of the draw bar and a collar 54, said collar being threaded upon the rod 49. It is apparent that by screwing the collar 54, toward the block 48, the tension of the spring 52 will be decreased, while by screwing said collar in the opposite direction, the tension of said spring will be increased. It will therefore be seen that if the draw bar be swung bodily in either direction, the spring 52 will be compressed by reason of one of the shoulders 50 engaging with its corresponding shoulder 46 or 47. Of course there would be no compression of spring 52 if the block 45 were free to rotate around the king bolt 11. In that case all of the parts would remain in just the same relative position. But with the block 45 held against movement and with the block 48 tending to rotate about the king bolt 11, it is apparent that said block 48 will be forced forward to thereby compress the spring 52 between the collar 54 and shoulder 53. If the draw bar be now released, it is apparent that the spring 52 will serve to return the parts to their former position, that is, said spring will throw the draw bar into longitudinal alinement with the car body. When the knuckle 31 has been opened its tail lies against the front face of the latch bolt 34 and as opposing cars come together and the knuckle is forced inwardly, this tail 33 rides over the front face of the bolt and forces said bolt inwardly against the tension of spring 37 until the parts assume the position shown in Fig. 3.

From the foregoing description it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purpose for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claim.

Having described my invention, what I claim is:

In a device of the character described, the combination with a car body, of a pivot member, a member fixed to said pivot member and having shoulders eccentric to said pivot member, a draw bar pivotally mounted upon said pivot member, a member adapted to engage said shoulders and a spring interposed between a portion of the draw bar and said last named member.

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

BENJAMIN BANYAY.

Witnesses:
J. W. HORNER,
ADOLPH DLIEFF.