

982,999.

H. W. SANFORD.
CAR COUPLING.
APPLICATION FILED JUNE 7, 1909.

Patented Jan. 31, 1911.

Fig. 1.

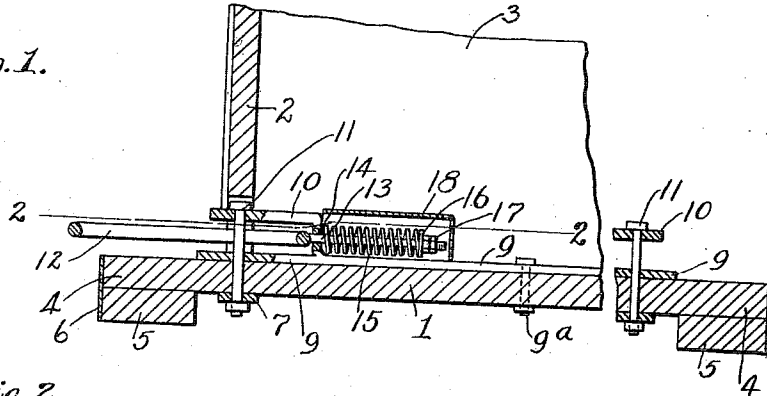


Fig. 2.

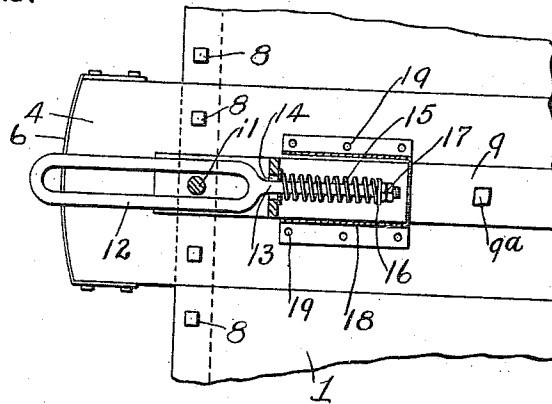


Fig. 3.

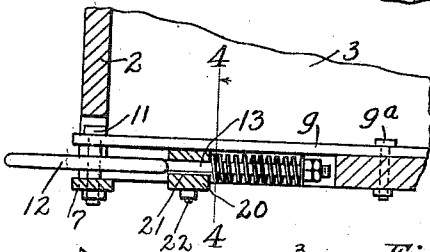


Fig. 4.

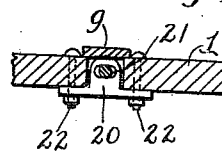


Fig. 5.

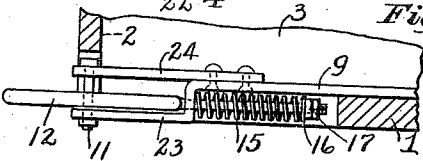


Fig. 6.

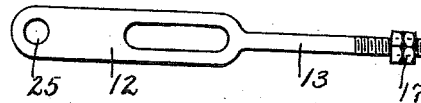
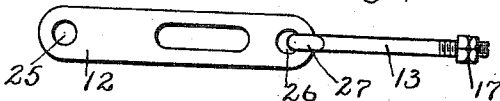


Fig. 7.



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HUGH W. SANFORD, OF KNOXVILLE, TENNESSEE.

CAR-COUPLING.

982,999.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed June 7, 1909. Serial No. 500,503.

To all whom it may concern:

Be it known that I, HUGH W. SANFORD, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification, reference being had to the accompanying drawing.

My improvement relates particularly to couplers for mine cars and similar small cars.

The object of the improvement is to provide efficient means for coupling such cars to each other.

In the accompanying drawings, Figure 1 is a longitudinal section of such a car along the coupling mechanism; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is a view of a modification of the structure shown in Fig. 1; Fig. 4 is a section on the line 4—4 of Fig. 3, looking toward the left; Fig. 5 is a view of another modification of the structure shown by Fig. 1; Figs. 6 and 7 illustrate modifications of the links constituting a part of the structure.

Referring first to Figs. 1 and 2 of said drawings, 1 is the bed or floor of the car; 2 is one of the end walls, and 3 is one of the side walls of the car. At the middle of the end of the car, a portion of the floor is extended to form a bumper, 4. To the lower face of said extended portion is added a supplemental piece, 5, to extend the bumper and increase the strength thereof. Around the end of the bumper is applied a metal facing, 6. Beneath the end wall, 2, a metal binding plate, 7, extends transversely across the lower face of said bumper and is secured thereto by means of bolts, 8. The middle lower portion of the end wall, 2, is cut away along the floor to make room for the extending of the coupling mechanism from the interior of the car body to and across the bumper. Extending on the floor and from end to end of the car, along the middle, longitudinal line thereof and through said openings in the end walls, is a member, 9. Said member is secured to said floor by any desired number of bolts, 9^a. At each end, said member is forked, a tongue, 10, rising a short distance from the main portion of said member and extending thence horizontally in the direction of the bumper approximately as far as the main portion of said member. A bolt, 11, extends through said tongue, the coupling link, 12, the main por-

tion of the member, and the binding plate, 7. The link, 12, has an extension or stem, 13, which is screw-threaded at its free end. Said stem extends through an aperture, 14, in the upright portion of the tongue, 10, said aperture being large enough to permit necessary play for said stem. An expanding coiled spring, 15, extends around said stem and bears by one end against the upright portion of said tongue (said portion forming an abutment) and by the other end against a washer, 16, which in turn bears against two nuts, 17. The relative dimensions of the parts are such as to normally hold the inner end of the link, 12, away from the bolt, 11. When there is draft on said link the spring, 15, forms a yielding and gradually-increasing resistance until said link has moved far enough to bring its inner end into engagement with said bolt, 11, whereby abrupt strains are avoided and whereby the locomotive or other means of applying draft power can put the train of cars into motion progressively. A housing, 18, covers said spring, washer, nuts, and stem and is secured to the floor by means of screws or bolts, 19.

In Figs. 3 and 4, the link and spring are placed below the member, 9, the floor being cut away beneath the member. In this form the member is not forked. The bolt, 11, extends down through said member, the link, 12, and the binding plate, 7. The stem, 13, of the link extends through an aperture, 21, in a bridge piece, 20, secured to the bed or floor, 1, by means of bolts, 22. Said aperture is preferably elongated horizontally so as to permit some lateral movement of the stem of the link. The outer end of the spring, 15, bears against said bridge piece (the latter constituting an abutment), instead of against the upright portion of the tongue, 10, as in Fig. 1.

In Fig. 5, the structure is the same as in Fig. 3, excepting that the member, 9, has a downward-directed offset portion, 23, through which the stem of the link extends and which forms an abutment for the spring; and a horizontal tongue 24, is secured to the main portion of the member. The bolt 11, extends through said tongue, the link 12, and the member.

The link shown in Fig. 6 differs from the link of Figs. 1, 2, 3, and 4 in that its slot or opening occupies only the inner half of the link and the outer end of the link is pro-

vided with an aperture, 25. In Fig. 7, there is such an aperture, 25, and a similar aperture, 26, at the opposite end, while the slot is between said apertures, and the stem, 13, is joined to the link by means of an eye, 27. The nuts, 17, and washer, 16, on the stem, 13, constitute an adjustable abutment whereby the resistance which the spring is to offer to the movement of the link may be varied.

I claim as my invention:

In a car, the combination with the floor, of coupling mechanism comprising a fixed abutment, a link having an extension mem-

ber extending through the fixed abutment 15 and bearing an abutment, a bolt extending through said link and two relatively stationary members, and an expanding spring applied to said extension member between said abutments, substantially as described. 20

In testimony whereof I have signed my name, in presence of two witnesses, this second day of June, in the year one thousand nine hundred and nine.

HUGH W. SANFORD.

Witnesses:

CYRUS KEHR,
C. A. MORSE.