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APPLICATION DATED

20th April, 1914.

Actual Inventor and Applicant	...	...	CHARLES ROBERT PROSSER.
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Complete Specification	...	...	Lodged, 19th June, 1914.
Acceptance	...	...	Advertised, 18th August, 1914.

Classes 97.2 ; 98.6.

Drawing attached.

COMPLETE SPECIFICATION.

**"Improvements in and connected with the adaptation of railway rolling stock to different gauges."**

I, CHARLES ROBERT PROSSER, Stable Foreman, of Corporation Stables, Clara Street, South Yarra, in the State of Victoria, Commonwealth of Australia, hereby declare this invention and the manner in which it is to be performed to be fully described and ascertained in and by the following statement:—

This invention relates to rolling stock which is required to pass over railway tracks of two (or more) different gauges.

In the past various devices have been suggested for enabling one set of railway carriages, trucks, or the like, to travel over tracks the rails of which are of different distances apart. But objections have existed to many of these, principally on account of the outlay involved in the conversion of the running gear or the trucks, or because appliances were called for which were complicated or liable to derangement.

The object of this invention is to provide for the use of one gauge rolling stock upon two (or more) different gauges or tracks. The invention provides an improvement in the track, at the junction of a broad and a narrow gauge, with a minimum of alteration. The track when altered does not require any special care as regards maintenance. The improvements in the running

gear, according to the present invention, include special laterally adjustable wheels and means for controlling the lateral position thereof. By the invention trains can pass from a broad to a narrow gauge or from a narrow to a broad gauge with perfect ease. Time and labour entailed in unloading are thereby saved.

But in order that this invention may be better understood reference will now be made to the accompanying sheet of drawings which are to be taken as part of this specification and read herewith.

Figure 1 is a sectional view, taken on line A—A, Figure 2, showing connecting and directing rails.

Figure 2 is a plan of connecting and directing rails disposed between the end of a broad gauge track and the end of a narrow gauge track.

Figure 3 is a sectional view, taken on line B—B Figure 5, showing a sliding rim element and means for locking the same in either of two positions. The locking members are withdrawn and the rim is free to move laterally on the hub.

Figure 4 is a sectional view, taken on line C—C Figure 5.

Figure 5 is a sectional elevation of a wheel and means for locking hub members and a rim element together. The locking means

are in a neutral position i.e. the rim element may now slide upon the hub members.

The invention includes a broad gauge track the rail ends 2 of which are (more or less) adjacent the rail ends 3 of a narrow gauge track. The distance between the ends of the two sets of rails will depend upon circumstances. The right broad gauge rail is connected to the right narrow gauge rail by a right connecting rail 4. The left broad gauge rail is connected to the left narrow gauge rail by a left connecting rail 5. The connecting rails are of the same sectional area and character as the other rails referred to. Inside and adjoining the connecting rails 4 and 5 is a right directing or guard rail 6 and a left directing or guard rail 7. The ends of the guard rails 6 and 7 project beyond the ends of the connecting rails 4 and 5 and are intumed towards each other as indicated at 8. Between each connecting rail and its guard rail is a space indicated at 9. This is wider than the width of the flange of the wheels hereinafter described. The directing or guard rails preferably upstand above the connecting rails as indicated in Figure 1 and preferably are of the same sectional area and character.

With the foregoing and, beneath the rolling stock are situated, axles of any ordinary nature. Each axle 10 is provided at each of its ends with an inner collar 11 and an outer collar 12. Secured to the axle between the inner and outer collars is an inner hub member 13 having therethrough a spindle hole and a locking pin hole. Adjoining the inner hub member 13, and disposed between the same and the outer collar 12, is an outer hub member 14 having therein a spindle recess and two locking pin threaded holes. Both the inner and outer hub members 13 and 14 are of the same conformation. This approximates a cross, as seen in Figure 5, the members being thereby provided with arms 15 and hollows between the said arms. Between the inner and outer hub members 13, and 14 is a lock space, indicated at 16.

Disposed within the lock space 16 between each inner and outer hub member is a first locking member 17 having a first rack 18 and a second locking member 19 having a second rack 20. Formed in the second locking member are two locking pin holes. Formed in the first and second locking members 17 and 19 is also a wheel and axle space 21. The first and second locking members, in conformation together approximate a cross being thereby provided with arms 22

and having hollows between the arms, as indicated in Figure 5.

In cross section the periphery of the locking members in the hollows thereof resembles a V as indicated at 23.

Mounted in the spindle hole of the inner hub member 13 and bearing in the spindle recess of the outer hub member 14 is a spindle having an inner end 24 and an outer end 25. Mounted upon the inner end 23 of the spindle is a toothed wheel 26. Formed upon the outer end of the spindle are flats 27.

Passing into the locking pin hole of the inner hub member 13 and through one of the locking holes in the second locking member 19 and entering into one of the locking pin threaded holes in the outer hub member 14 is a locking pin 28 having a threaded inner end 29 and a wing or other head 30.

Mounted upon the hub members 13 and 14 is a rim element 31 having a tread 32 and a flange 33. Formed in the rim element is a cross-shaped hole seen in Figure 5, the hole having projecting thereinto rounded protuberances 34. Formed in each protuberance 34 is an inner V sectioned groove 35 and an outer V sectioned groove 36.

With this invention when a train upon a broad gauge track requires to pass on to a narrow gauge track, an operator places a crank handle, ratchet or other device upon the flats 27 at the outer end 25 of the spindle of the toothed wheel 26. By rotating the spindle the peripheries 23 of the first and second locking members 17 and 19 are withdrawn from engagement with the inner V sectioned grooves 35 and assume a neutral position as indicated in Figures 3 and 5. They may be locked in this position by the pin 28. Every wheel of a train is treated in this manner. The train now moves from the broad gauge track past the intumed ends 8 of the directing rails 6 and 7 towards the narrow gauge track rail ends 3. The connecting rails and the directing rails between the broad and narrow gauge tracks are inclined or converging. As the train moves along the converging rails, the rim elements 31 slide upon the inner and outer hub members 13 and 14, the flanges 33 of the said elements being confined in the spaces 9. When the train has reached the narrow gauge track and the last carriage has passed over the connecting rails 4 and 5 the outer V sectioned grooves 36 of each rim element

31 have moved into alignment with the first and second locking members 17 and 19. The operator now removes the pin 28 from its operative or retaining position and rotates the toothed wheel 26 causing the first and second locking members to move apart, the V sectioned peripheries 23 thereby engaging the outer V sectioned grooves 36 of the rim element 31. The locking pin 28 is now re-engaged or inserted to prevent the racks 18 and 20 and the toothed wheel 26 moving in relation to each other. The rim element is thereby retained securely to the hub members 13 and 14. The same operation occurs when a train passes from a narrow to a broad gauge track it being necessary in either instance to first operate the locking members of each wheel to release the rim elements from the hub members in order that the rim elements may slide upon the said hub members and then, after a train has passed form one gauge to another, to again operate the locking members to hold the hub members and rim elements in engagement. If desired additional locking means may be provided to retain the rim element in position when engaging the rail of a broad gauge track. For example, tongues may be pivotted to the inner collar and when in an operative position project towards and bear against the rim element, a band or the like being then placed around the tongues and the inner hub element.

Having now fully described and ascertained my said invention and the manner in which it is to be performed, I declare that what I claim is:—

1. Improvements in and connected with the adaptation of railway rolling stock to different gauges, consisting in the combination with an axle, of a laterally slideable rim element, and means for locking the rim element in different positions in relation to the length of the axle.

2. Improvements in and connected with the adaptation of railway rolling stock to different gauges, consisting in the combination with an axle, of hub members carried thereby, a rim element slideable upon the hub members, and means for locking the rim element in different positions upon the hub members.

3. Improvements in and connected with the adaptation of railway rolling stock to different gauges, consisting in the combination with a broad gauge track and a narrow gauge track, of connecting rails extending

between the rail ends of the tracks, directing rails disposed inside and adjacent the connecting rails, a space being formed between each directing and connecting rail, a rim element having a flange moving in said space, an axle, and means for locking the rim element in different positions in relation to the axle.

4. Improvements in and connected with the adaptation of railway rolling stock to different gauges, consisting in the combination with an axle, of an inner and outer collar thereon, inner and outer hub members disposed between the collars, locking members, and a rim element sliding upon the hub members and engaged by the locking members.

5. Improvements in and connected with the adaptation of railway rolling stock to different gauges, consisting in the combination with an axle, of an inner and outer collar thereon, inner and outer hub members mounted upon the axle between the collars, locking members disposed between the hub members, means for operating the locking members, a rim element sliding upon the hub members, and a locking pin engaging the locking members and the hub members.

6. Improvements in and connected with the adaptation of railway rolling stock to different gauges, consisting in the combination with an axle, of an inner and outer collar thereon, an inner and an outer hub member disposed between the collars, each member having arms thereto and hollows between the arms, first and second locking members disposed between the hub members, each locking member having a rack, each locking member having arms thereto, and hollows having V sectioned peripheries between the arms, a spindle mounted in the hub members, a toothed wheel carried by the spindle and engaging the racks of the locking members, a locking pin engaging the locking members and the hub members, and a rim element disposed upon the locking members and having V sectioned grooves therein.

7. Improvements in and connected with the adaptation of railway rolling stock to different gauges, consisting of the combination and arrangement of parts as hereinbefore described and illustrated with reference to Figures 3, 4, and 5 of the accompanying drawings.

8. Improvements in and connected with the adaptation of railway rolling stock to different gauges, consisting in the combination with the rails hereinbefore described and illustrated with reference to Figures 1 and 2, of the running gear hereinbefore described and illustrated with reference to

Figures 3, 4 and 5 of the accompanying drawings.

Dated this 18th day of June, A.D. 1914.

EDWIN PHILLIPS,  
Patent Attorney for Applicant.

Witness—Frank Helps Cain.

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CHARLES ROBERT PROSSER.

Rolling Stock Adaptation to Different Gauges.

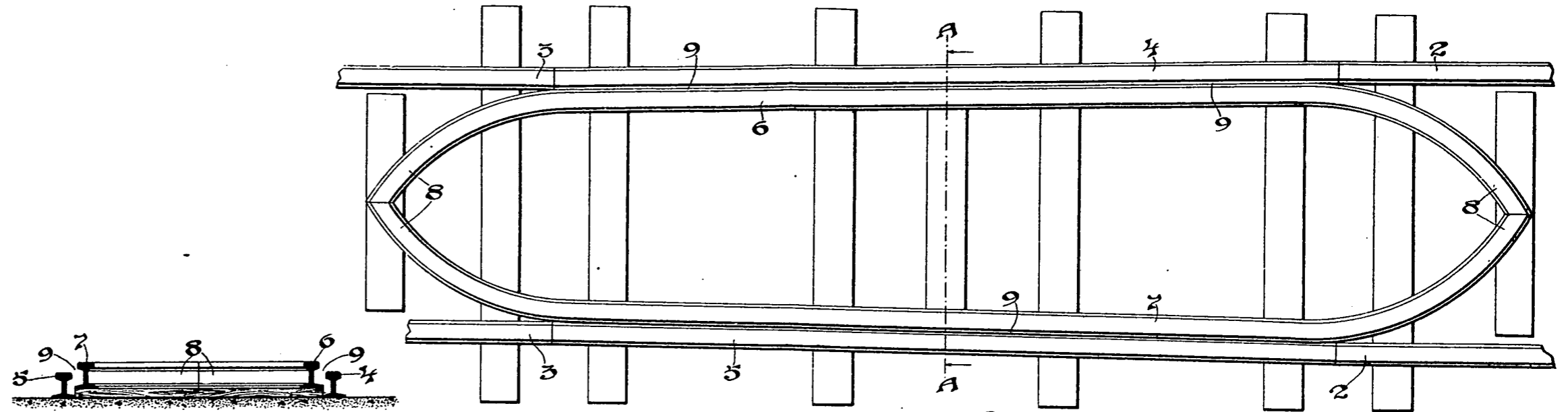


Fig. 1.

Fig. 2.

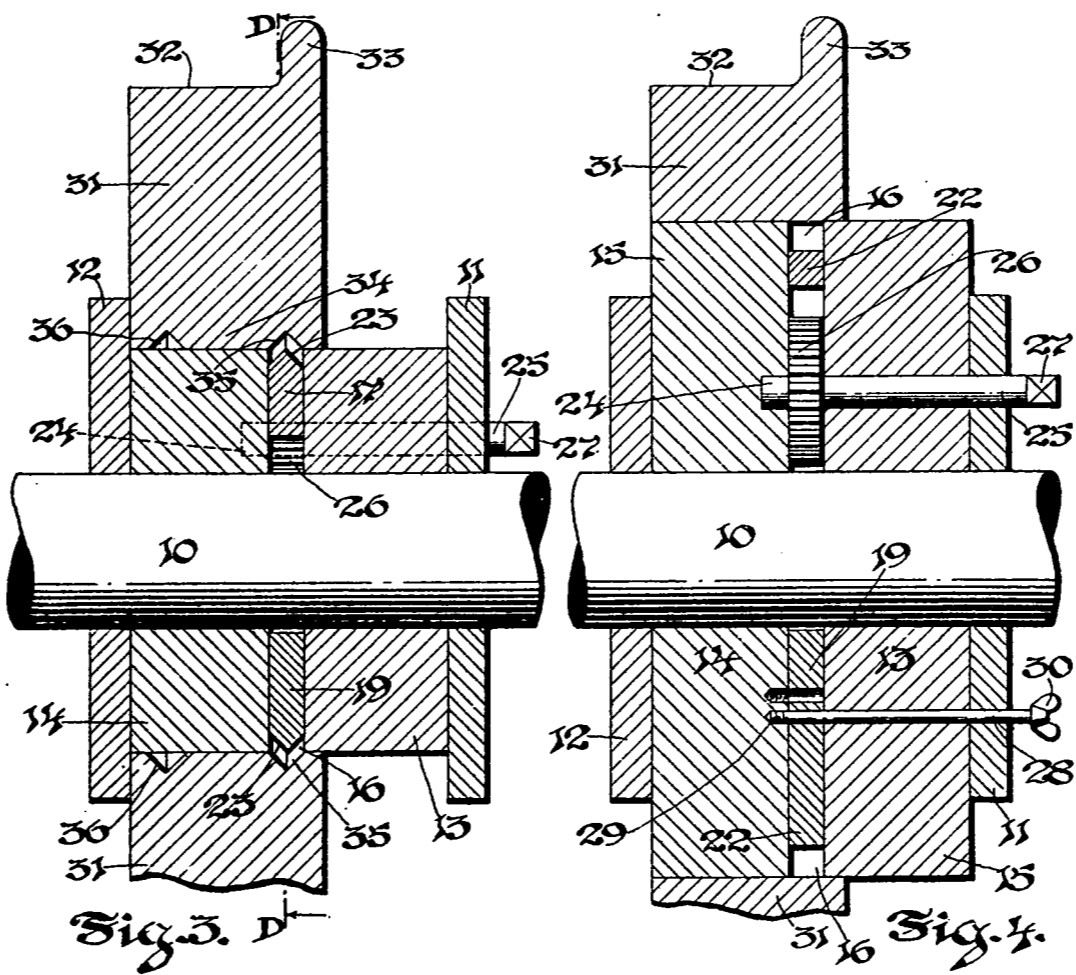


Fig. 3.

Fig. 4.

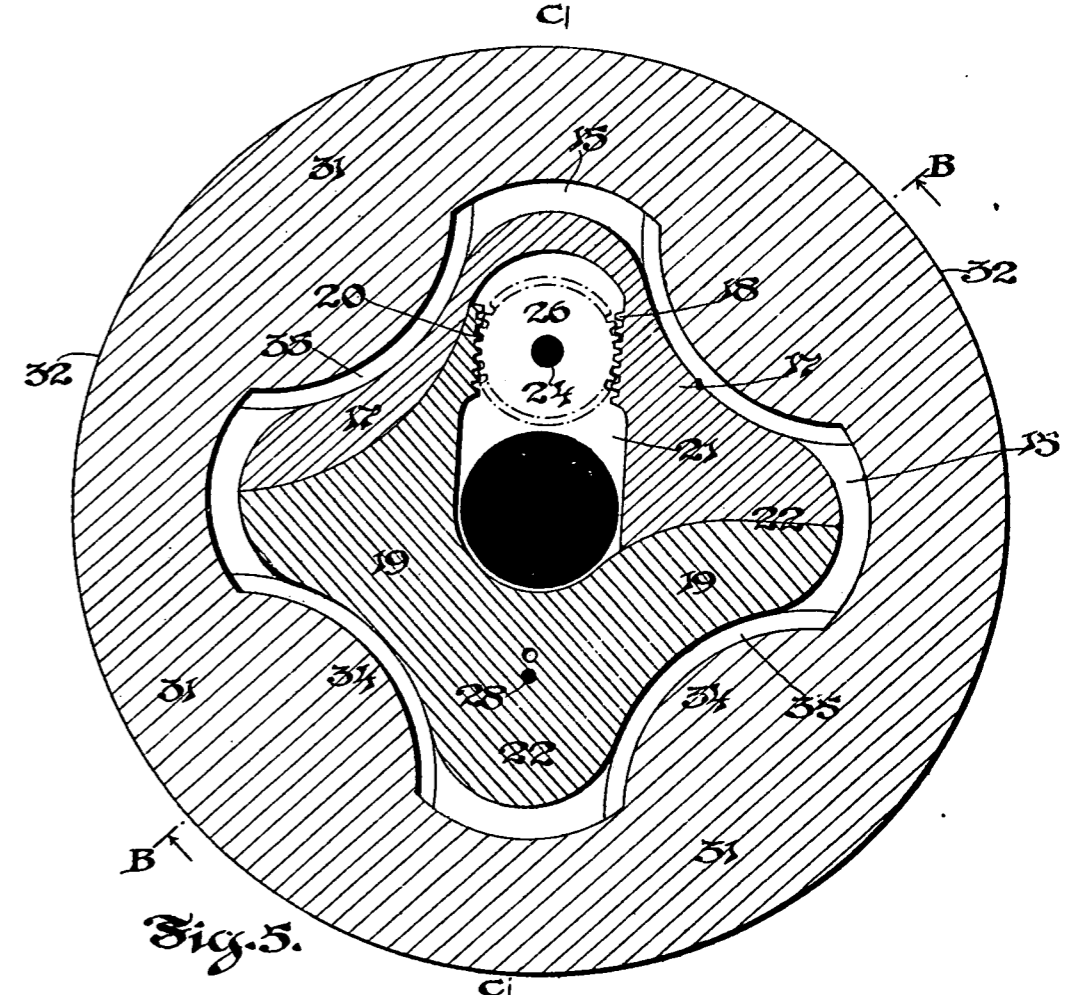


Fig. 5.