

Sept. 29, 1936.

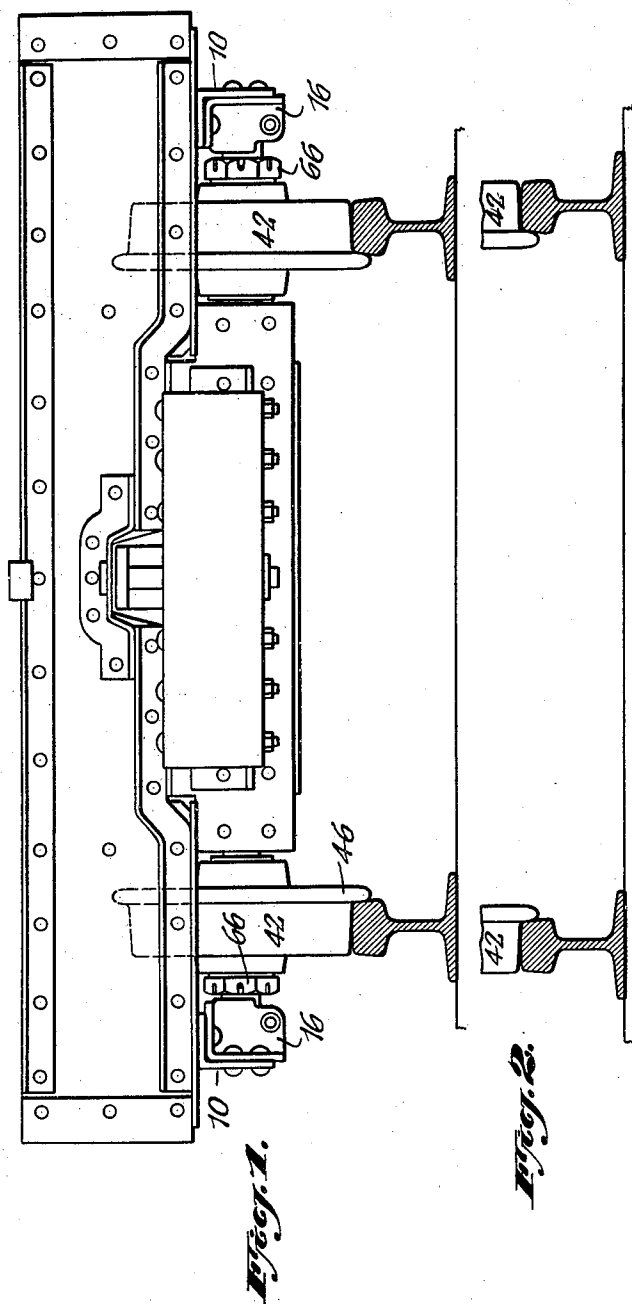
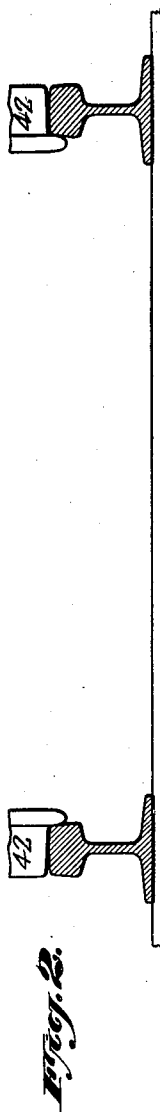
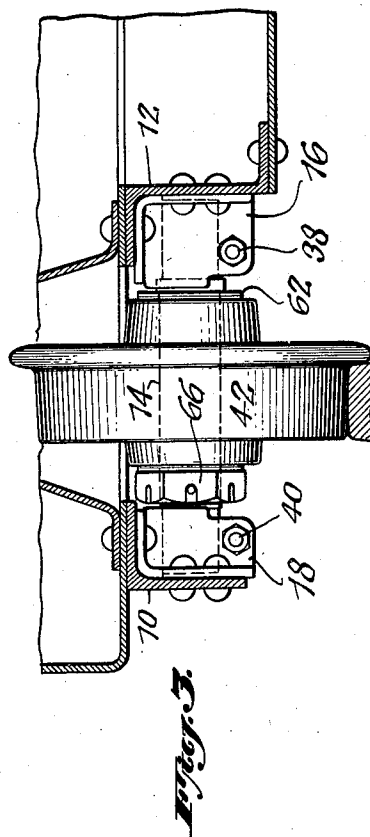
G. J. HAHN ET AL

2,056,100

CHANGEABLE GAUGE MINE CAR

Filed Nov. 16, 1934

2 Sheets-Sheet 1



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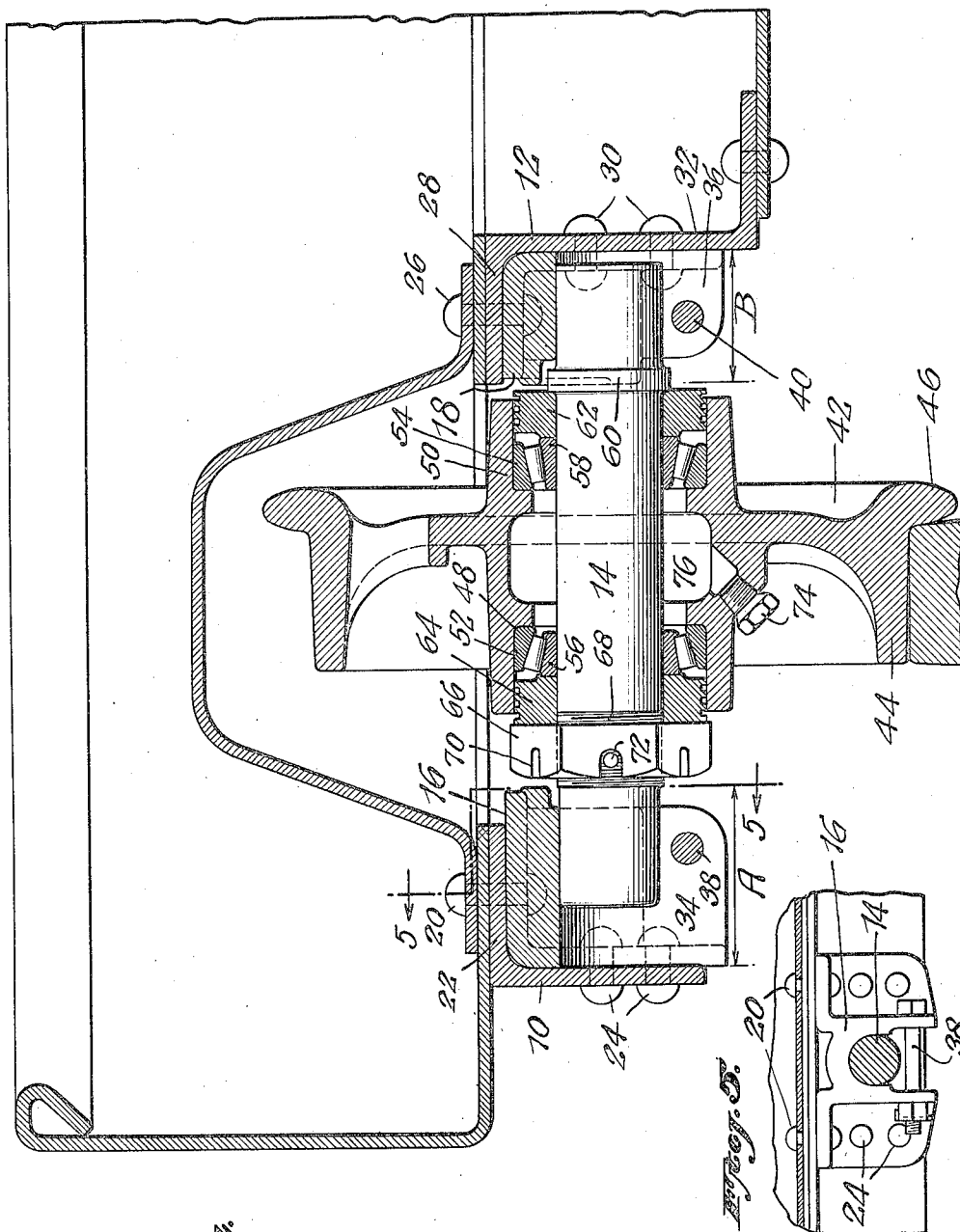
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2 Sheets-Sheet 2



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2,056,100

CHANGEABLE GAUGE MINE CAR

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Application November 16, 1934, Serial No. 753,392

2 Claims. (Cl. 105—178)

This invention relates to mine cars and more particularly to a mine car having an improved type of wheel mounting, whereby the wheels can be readily shifted to properly position them for coaction with tracks of differing gauges. It is broadly old to provide changeable gauge mine cars, but the arrangements shown in the prior art refer chiefly to designs of obsolete construction. Moreover, expensive assemblages are used in the old constructions and in many instances require a plurality of sets of drilled holes for the attachment of the bearings and the like. Our present invention resides in specific features of improvement which give rise to advantages in manufacture. The wheel mounting of our invention includes brackets of dissimilar length carried by the underframe members of the car, these brackets being adapted to be transposed in order to change the gauge. A further feature is that the brackets for receiving the stub axles carrying the car wheel are provided with open ended slots which, upon the removal of a keeper bolt, permits of quick detachment of the sub-assembly including the stub axle and the bearings and mine car wheel carried thereby.

The above and other features of the invention will be fully apparent from the following detailed description and claims when read in connection with the accompanying drawings—in the drawings:

Fig. 1 is an end view of a mine car embodying our invention; Fig. 2 is a diagram illustrative of the change in gauge effective by transposing the wheel bearings employed in our improved mine car, the relative position of the rails in Figs. 1 and 2 and the car wheels illustrating the magnitude of variation in gauge; Fig. 3 is a detail partly in transverse section, showing our improved wheel mounting; Fig. 4 is an enlarged transverse section taken at one side of the mine car and showing the body, main underframe members, and the brackets and wheel mounting of our invention; Fig. 5 is a detail section on line 5—5 of Fig. 4.

Referring in detail to the drawings, the mine car includes outer side sills 10 which in the embodiment illustrated are in the form of rolled structural flanged members, an angle member being shown. Spaced therefrom at each side of the car, we provide an inner frame member 12. One of these inner members is shown at 12 in Fig. 4. This member is a rolled structural Z-bar. The sections 10 and 12 are structural sections which are readily obtainable from distributors of rolled steel products. Such rolled sections are

well suited for supporting the brackets of our invention because of the substantially horizontal and vertical members thereof, such as their flanges and webs.

For supporting the wheel-carrying stub axle 14, we provide two brackets 16 and 18 of dissimilar length, it being apparent in Fig. 4 that the dimension A of the bracket 16 is substantially greater than the dimension B of the bracket 18. Suitable mine car sides, bottom and wheel hoods are supported by the members 10 and 12, as shown in Fig. 4.

The bracket 16 is secured by rivets 20, bolts or other suitable attaching means to the horizontal flange 22 of the angular structural member 10 and similar rivets or other fastening devices 24 are provided for securing a bracket to the upright flange or web of the member 10.

Similarly, the bracket 18 is secured by rivets or other fastening means 26 to the upper horizontal flange 28 of the Z-bar and rivets or other fastening means 30 serve to secure said bracket 18 to the web 32 of the Z-bar.

The brackets 16 and 18, as shown, are provided with open-ended slots 34 and 36, which permit the ready insertion or removal of the wheel and axle assembly upon removal of the respective clamp bolts 38 and 40 from the brackets. These bolts, when drawn up, exert sufficient pressure on the depending legs of the brackets, which define the slots thereof, to fixedly secure the stub axle 14. Such an arrangement provides for a certain amount of adjustment in positioning the car wheel as will be understood.

The car wheel 42 is provided with the usual tread 44 and flange 46 for coaction with the rail heads. Each wheel has formed therein a pair of recessed shoulder bearing seats 48 and 50, as clearly shown in Fig. 4, for the reception of the cup members 52 and 54 of the anti-friction members illustrated. These anti-friction bearings are of a known type and include tapered rollers, as illustrated, and respective cone members 56 and 58, which are fitted to the stub axle 14. The axle carries near one end a fixed shoulder or collar 60, which is adapted to coact with the bracket 18 in assembling the parts and this shoulder also coacts with a dust collar 62, which is interposed between the cone 58 of the bearing and said shoulder 60. Near the opposite end of the shaft 14 there is another dust collar 64 which coacts with a nut 66 adjustably mounted on screw threads 68 formed on the shaft, this nut being provided with slots 70 for coaction with a cotter pin 72 adapted to lock the nut in the desired position of adjustment

on the stub axle. A suitable fitting 74 of conventional type is screwed into a threaded opening in the hub of the wheel, which opening leads into a chamber 76 adapted to hold a heavy grease or lubricant for the anti-friction bearings.

In order to vary the gauge of the mine car provided with wheel mountings of our invention, it is merely necessary to transpose the bearings 16 and 18. And due to their dissimilar length, it will be understood that the transverse position of the wheel with relation to the frame members of the mine car will thereby be varied. This relative variation of relative position of the wheel to the underframe members of the car is apparent to the eye by comparing Figs. 3 and 4 of the drawings. In the illustration of Fig. 3, it will be noted that the brackets 16 and 18 have been transposed with the result that the wheel is shifted to the left. The variation in gauge which is thus effected is apparent by the comparison of the position of the wheels in Figs. 1 and 2. In Fig. 1, the wheels are represented in the position they occupy when the brackets 16 and 18 are in the respective positions shown in Fig. 4, while in Fig. 2 the wheel position corresponds to that obtained by transposing the brackets 16 and 18, as illustrated in Fig. 3. Further minor variations in the gauge can also be readily obtained by using dust collars 62 and 64 of various lengths, as measured longitudinally of the axle 14 and making a corresponding adjustment of the nut 66.

In making the transposition of the brackets 16 and 18, it is to be noted that no additional drilling of the frame members 10 and 12 is required because the locations of the holes for the bolts or rivets utilized to secure the brackets are equally spaced in each. Thus, they are clearly interchangeable. The design is such that mine operators can readily adapt the car wheels to suit the varying track gauges used in different

mine entries or slopes and such changes can be made by relatively unskilled labor in a short time with a corresponding saving in loss of productive time for the car being changed.

Having described the invention with that particularity required by the statute, what we claim is the particular structural features or combinations of instrumentalities defined in the appended claims and various mechanical equivalents thereof.

What we claim is:—

1. A changeable gauge mine car comprising a longitudinally extending pair of underframe members and a wheel mounting between them consisting of two fixed brackets of dissimilar length adapted to be transposed and fixedly secured to said members to vary the wheel gauge of the car, a stub axle mounted in said brackets and having a fixed shoulder near one end adapted to abut one of said brackets, roller bearings carried by the axle, a car wheel having shouldered seats for said roller bearings and an adjustable abutment on said axle holding the bearings in said seats and adapted to coast with the other bracket in positioning the wheels between the two brackets.

2. A changeable gauge mine car comprising a longitudinally extending pair of underframe members and a wheel mounting between them consisting of two fixed brackets of dissimilar length adapted to be transposed and fixedly secured to said members to vary the wheel gauge of the car, a stub axle mounted in said brackets and having a fixed shoulder near one end adapted to abut one of said brackets, a car wheel supported by the stub axle and means on the axle for holding the wheel against longitudinal movement relatively to said fixed shoulder.

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