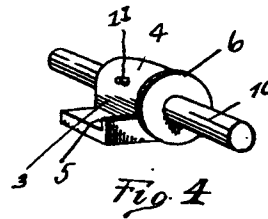
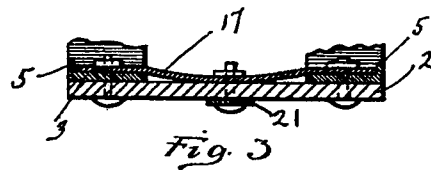
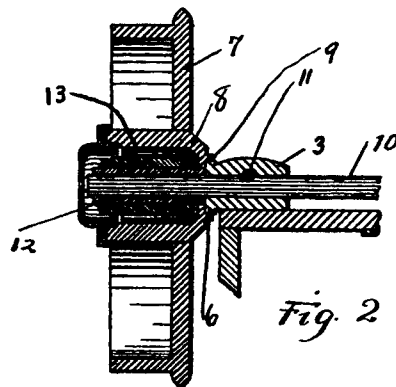
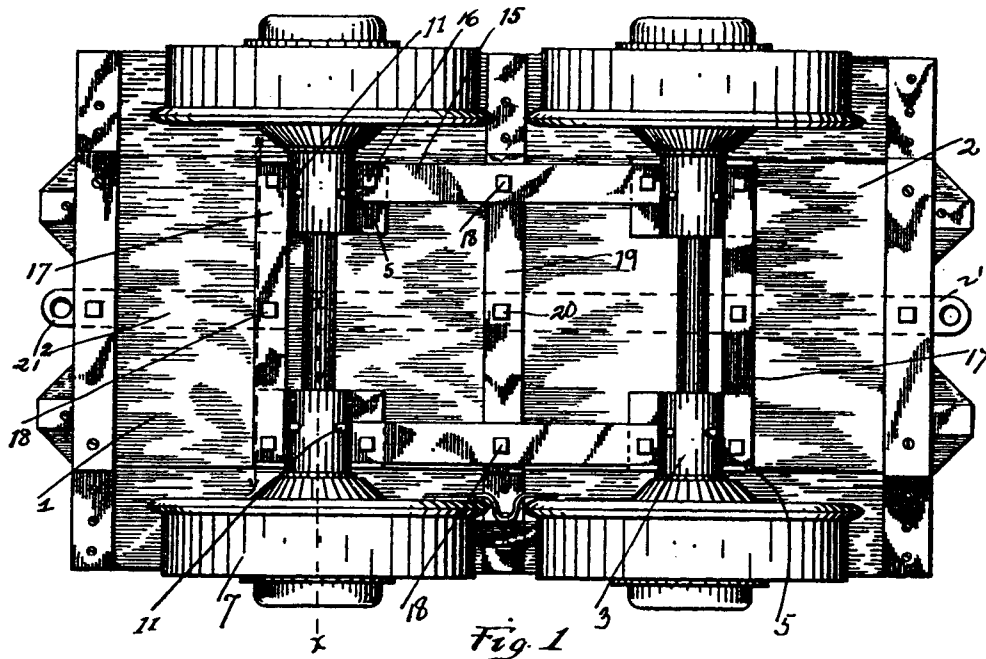


(No Model)

J. S. WOODCOCK.
MINE CAR.

No. 583,964.

Patented June 8, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES S. WOODCOCK, OF NEW LEXINGTON, OHIO.

MINE-CAR.

SPECIFICATION forming part of Letters Patent No. 583,964, dated June 8, 1897.

Application filed July 2, 1896. Serial No. 597,886. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. WOODCOCK, a citizen of the United States, residing at New Lexington, in the county of Perry and State of Ohio, have invented a certain new and useful Improvement in Mine-Cars, of which the following is a specification.

My invention relates to the improvement of mine-cars and has particular relation to the trucks therefor.

The objects of my invention are to provide an improved construction of trucks, whereby a round axle may be employed without intersecting pins or shoulders, to provide improved axle binders and boxings, and produce other improvements in details of construction, which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a bottom view of a mine-car having my improvements thereon. Fig. 2 is a sectional view on line *xx* of Fig. 1 on a slightly-reduced scale. Fig. 3 is a detail sectional view on line *yy* of Fig. 1, and Fig. 4 is a detail view in perspective of one of the bearing-boxes.

Similar numerals refer to similar parts throughout the several views.

1 represents the body of a mine-car, of which 2 is the under side thereof.

3 represents the axle-binder boxes, each of which consists, as shown in the drawings, of an oblong plate or base, which has formed therewith centrally a transverse raised bearing portion or barrel 4, through which the axle is adapted to pass and within which said axle is secured, as hereinafter described. Each of these boxes 3 has formed on its projecting base portion, on the outer sides thereof, short upwardly-projecting flanges or shoulders 5, while the outer end of each of the boxes has formed therewith a circular bearing-shoulder 6.

As indicated in the drawings, the boxes 3 have their base portions so secured to the car-bottom at the shoulder points as to cause their shoulder portions 6 to project slightly beyond the side of the car.

7 represents a mine-car wheel, which is substantially of the construction set forth in another patent application executed by me

and filed of even date herewith. Of this wheel, 8 represents an inwardly-projecting hub portion and around the central opening of said hub portion is formed an annular recess 9, in which the bearing-shoulder 6 of the box is adapted to bear, as shown more clearly in Fig. 2 of the drawings.

10 represents the axles, which, as shown in the drawings, are round in cross-section throughout their lengths. The bearing portions of each of these axles pass through the oppositely-located bearing-boxes 3 and are secured from rotating therein by means of transverse keys or lock-pins 11, which engage with shallow transverse grooves formed in the peripheries of said axles and which, as shown more clearly in Fig. 4 of the drawings, extend through the portions 4 of the boxes 3.

The outwardly-projecting portions of the axles on the outer sides of the boxes are surrounded by sleeves 12, which are connected with said axles and on which revolve the internal hub portions 13 of the wheels.

15 represents binder-bars, which, as indicated in the drawings, extend in the direction of the length of the car and have their end portions bolted or otherwise secured at 16 on the projecting portions of the boxing-bases 5, the outer edges of these binder-bars being made to abut against the flanges 5 of the bases with which they are connected.

17 represents transverse binder-bars, which extend between and are secured upon the outwardly-projecting portions of the boxes 5, the ends of said bars 17 abutting against the flanges 5 of said box-bases.

The bars 17 and 15, which thus form a connecting framework for the boxes, are also bolted, as indicated at 18, to the car-bottom or other framework thereof. Extending transversely across the car-bottom and up the sides thereof is a central binder bar or plate 19, which is bolted or otherwise connected at 20 to the bottom of the car and to the center of the draw-bar which passes there-through, said draw-bar being indicated partly in dotted lines and partly in full lines in Fig. 1 and in cross-section in Fig. 3. The central portions of the bars 17 are also provided with a bolt connection with the said draw-bar and car-bottom, as indicated more clearly in Fig. 3 of the drawings.

From the construction which I have herein shown and described it will readily be seen that simple and effective means are provided whereby a round axle may be employed or an axle having the same shape in cross-section throughout its length and that the necessity of employing shoulder-pins or means for limiting the movement of the axle other than the key-pins 11 are entirely obviated. It will also be observed that owing to the employment of the binder-boxes and the frame-bar connections thereof the axles will be assured in their position at all times regardless of any shrinkage or contraction or expansion of the wood frame of the car, while the connection of said bars with the draw-bar through the car-bottom must necessarily add further strength and rigidity to the construction.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a mine-car the combination with the

car-body and axle-binder boxes oppositely located thereon, each of said binder-boxes being provided with base extensions, and wheel-carrying axles supported in said boxes, of binder-bars 17 and 15 connecting as described the outer and inner ends of said box extensions, substantially as and for the purpose specified.

2. In a mine-car the combination with the car-body, binder-boxes secured to the under side thereof, said binder-boxes having base extensions and outer side flanges 5 thereon, of binder-bars 15 and 17 connecting as described the inner and outer ends of said box-base extensions and abutting against said flanges, said binder-bars also having a bolt connection with the car-body, substantially as and for the purpose specified.

JAMES S. WOODCOCK.

In presence of—

C. C. SHEPHERD,
A. L. PHELPS.