I. GLEN.

MINE CAR BRAKE.

APPLICATION FILED JAN. 25, 1909.

923,260.

Patented June 1, 1909.

Fig 1

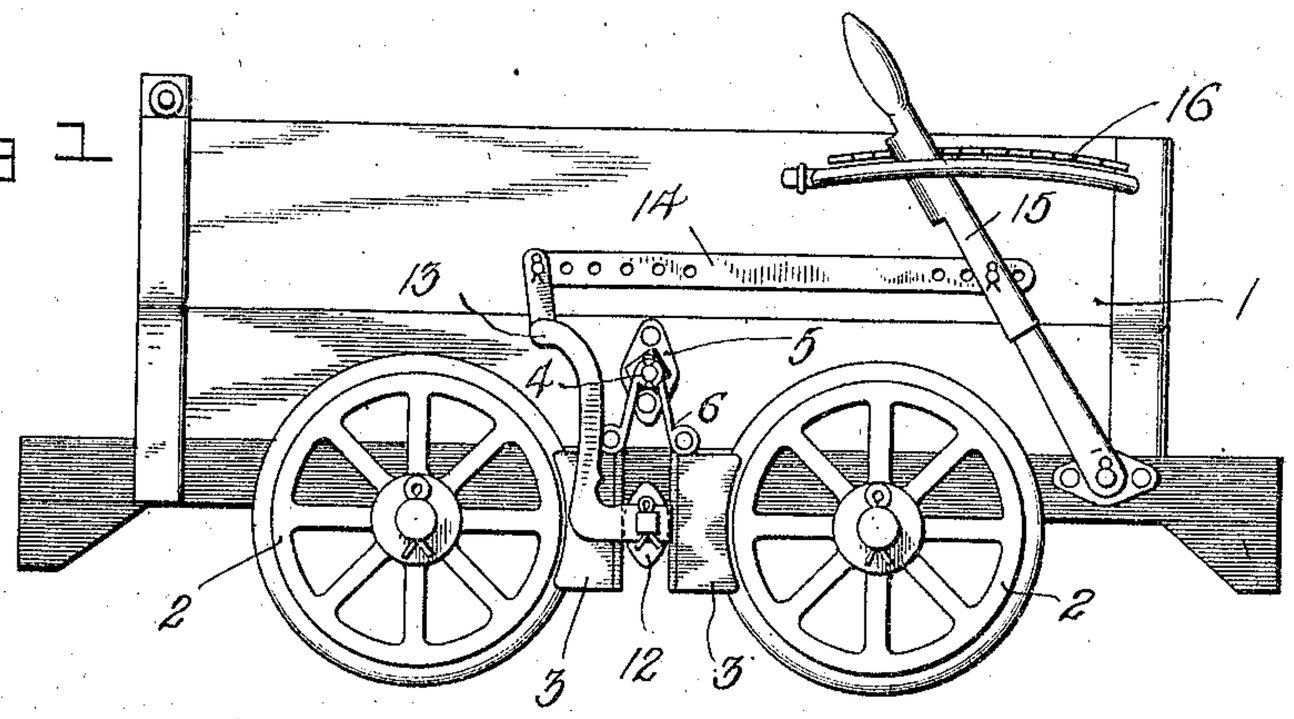
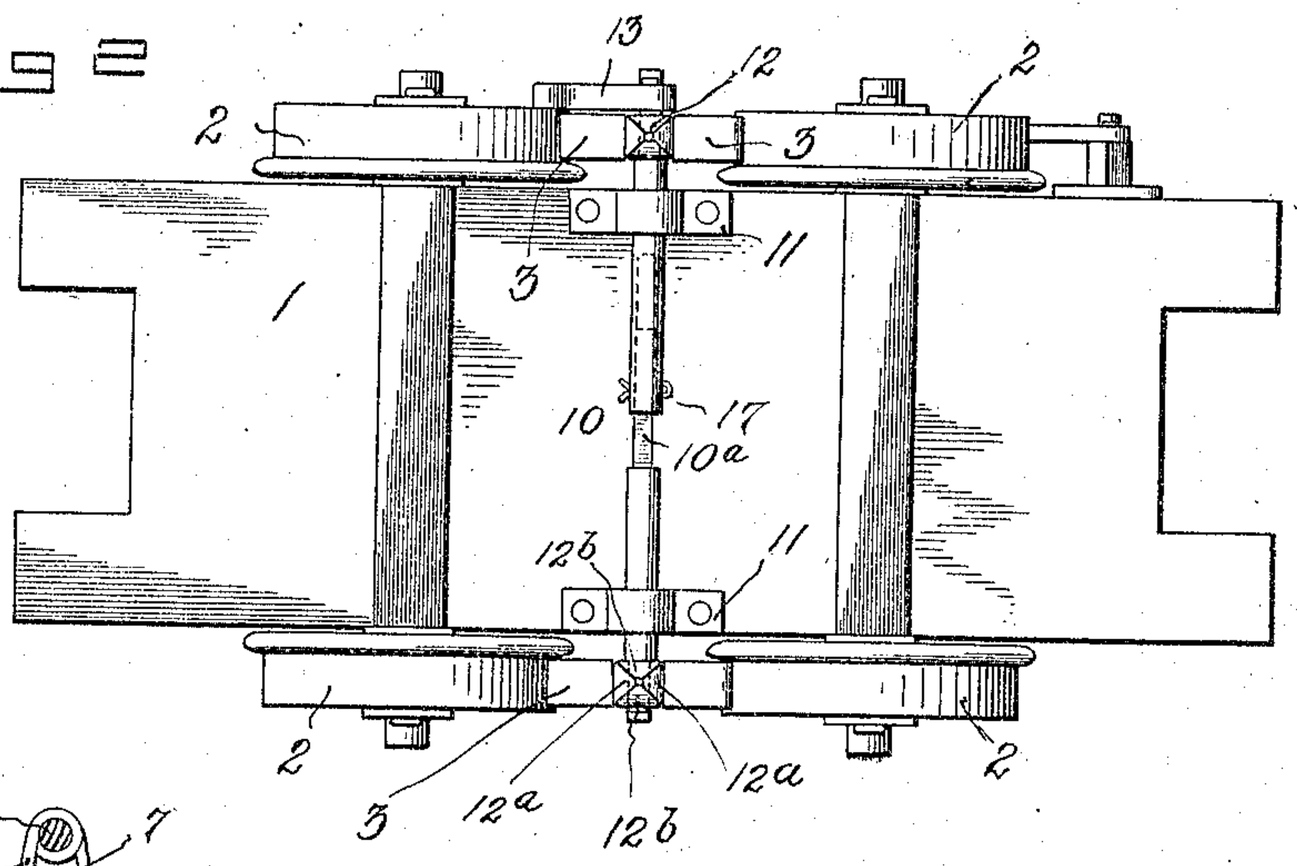


Fig 2



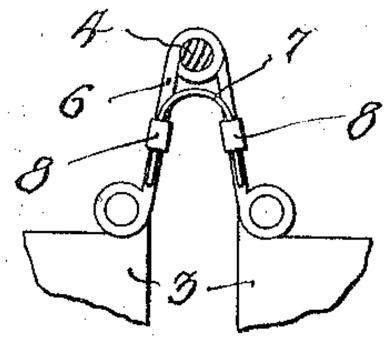
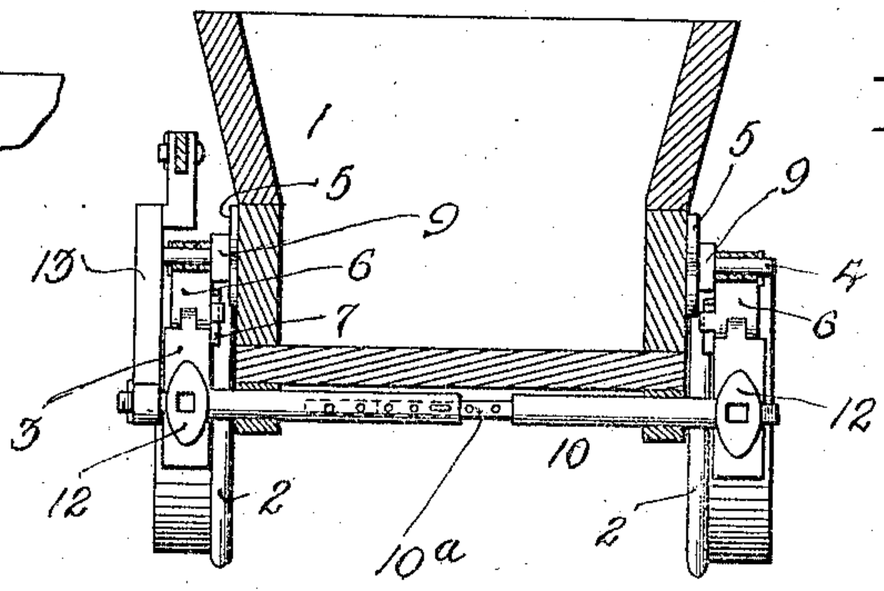


Fig 4

Fig 3



Witnesses

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MINE-CAR BRAKE.

No. 923,260. Specification of Letters Patent. Patented June 1, 1909.

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To all whom it may concern:

Be it known that I, ISAAC GLEN, a citizen of the United States, residing at Trafford City, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Mine-Car Brakes, of which the following is a specification.

This invention relates to brakes of the class particularly designed for use in connection with mine cars.

The invention resides essentially in certain specific features of construction of the brake mechanism, for the purpose of facilitating the application of the brake to mine cars, and possessing other advantages to be more fully set forth hereinafter.

For a full understanding of the invention reference is to be had to the following detail description and to the accompanying drawings, in which—

Figure 1 is a side elevation of a mine car showing brake mechanism embodying the invention applied thereto; Fig. 2 is a bottom plan view; Fig. 3 is a vertical central section, and Fig. 4 is a detail fragmentary view showing more clearly the spring connecting the brake shoes.

Throughout the following detail description and on the several figures of the drawings similar parts are referred to by like reference characters.

Referring particularly to the drawings and describing the details of construction of the invention the numeral 1 denotes any ordinary type of mine car mounted on the wheels 2 and on which is arranged the brake mechanism comprising the invention. Said mechanism consists of a pair of brake shoes 3 located between the front and rear wheels 2 of the car and on each side of said car. The shoes 3 are suspended from the stud 4 of a bracket plate 5 one of which is secured to each side of the car, and by means of links 6. The shoes 3 are so arranged and connected with the stud 4 that they normally tend to gravitate away from the wheels 2, but to effect quick release of the brake mechanism springs 7 may be employed. Each spring 7 is curved so that its ends pass through openings in lugs 8 on the rear edges of each pair of links 6, the tendency of the spring being to force the links toward each other, and move the brake shoes 3 out of contact with the wheels 2. The springs 7 are prevented from upward displacement by the bosses 9 on the plates 5, and from which project the studs 4. The means for actuating the brake shoes 3 in order to apply the brake mechanism includes a transverse operating shaft 10 mounted in suitable bearings provided by plates 11 secured to the bottom of the car. The shaft 10 has its ends squared so as to receive thereon cam heads 12 adapted to operate between the sets of brake shoes at opposite sides of the car. One of the ends of the shaft 10 is extended so as to receive thereon an arm 13 connected by a bar 14 with a hand lever 15. The lever 15 is held in adjusted positions by a suitable rack 16 such as commonly used for this purpose.

The heads 12 on the shaft 10 are detachable and reversible, said heads being provided at the middle portions with intersecting square openings. Furthermore, the heads are formed with sets of opposite cam surfaces 12^a and 12^b, see Fig. 2. When one set of surfaces 12^a for instance has been worn considerably by engagement with the shoes 3, it will be apparent that by reversing the head 12 bringing the other set of cam surfaces into coöperation with the brake shoes, the life of the heads will be prolonged materially.

As noted before the shaft 10 is preferably made in two parts telescopically connected as shown at 10^a, and adapted to be held at desired adjustments by a pin or other member 17. The shaft 10 by adjustment may be readily applied to cars of different widths.

In the operation of the invention the lever 15 may be moved to partly rotate the shaft 10 and this action turns the cam heads 12 causing the latter to apply the brake shoes 3 to the wheels 2 with great force in an evident manner.

Having thus described the invention, what is claimed as new, is:

1. In combination with a mine car embodying front and rear wheels, brake shoes between said wheels, a transverse shaft mounted on the car and having an end thereof extending between said brake shoes, a detachable cam head mounted on said end of the shaft and having a plurality of openings each of which is adapted to receive the shaft end, said head having also a plurality of cam surfaces to engage the brake shoes and reversible by passing the

end of the shaft through a certain one of the intersecting openings, and means for operating the shaft.

2. In combination with a car embodying spaced supporting wheels, brake mechanism including brake shoes between said wheels and a transverse shaft having a square end, a cam head having intersecting square openings each adapted to receive the shaft end, and also having reversible cam surfaces corresponding to the openings and adapted for contact with the brake shoes, and operating means for turning the shaft to impart movement to the cam heads and brake shoes.

3. In combination with a car embodying spaced supporting wheels, brake mechanism including brake shoes between said wheels and a transverse shaft having a square end, a cam head having intersecting square openings each adapted to receive the shaft end, and also having reversible cam surfaces corresponding to the openings and adapted for contact with the brake shoes, operating means for turning the shaft to impart movement to the cam heads and brake shoes, links supporting the brake shoes, a bracket plate pivotally connecting the links to the car, and a spring connecting the links together to effect quick release of the brake mechanism and prevented from displacement by the bracket plate supporting said links.

4. In combination with a car embodying front and rear wheels, brake shoes therebetween, a transverse two-part shaft mounted on the car, a reversible detachable cam head mounted on each end of the shaft and having corresponding reversible cam surfaces to engage the brake shoes, means for turning the shaft to actuate the cam heads and apply the brake shoes to the wheels, and means for holding the two parts of the shaft in adjusted positions to adjust the relative positions of the cam heads carried thereby.

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

ISAAC GLEN.

Witnesses:
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