

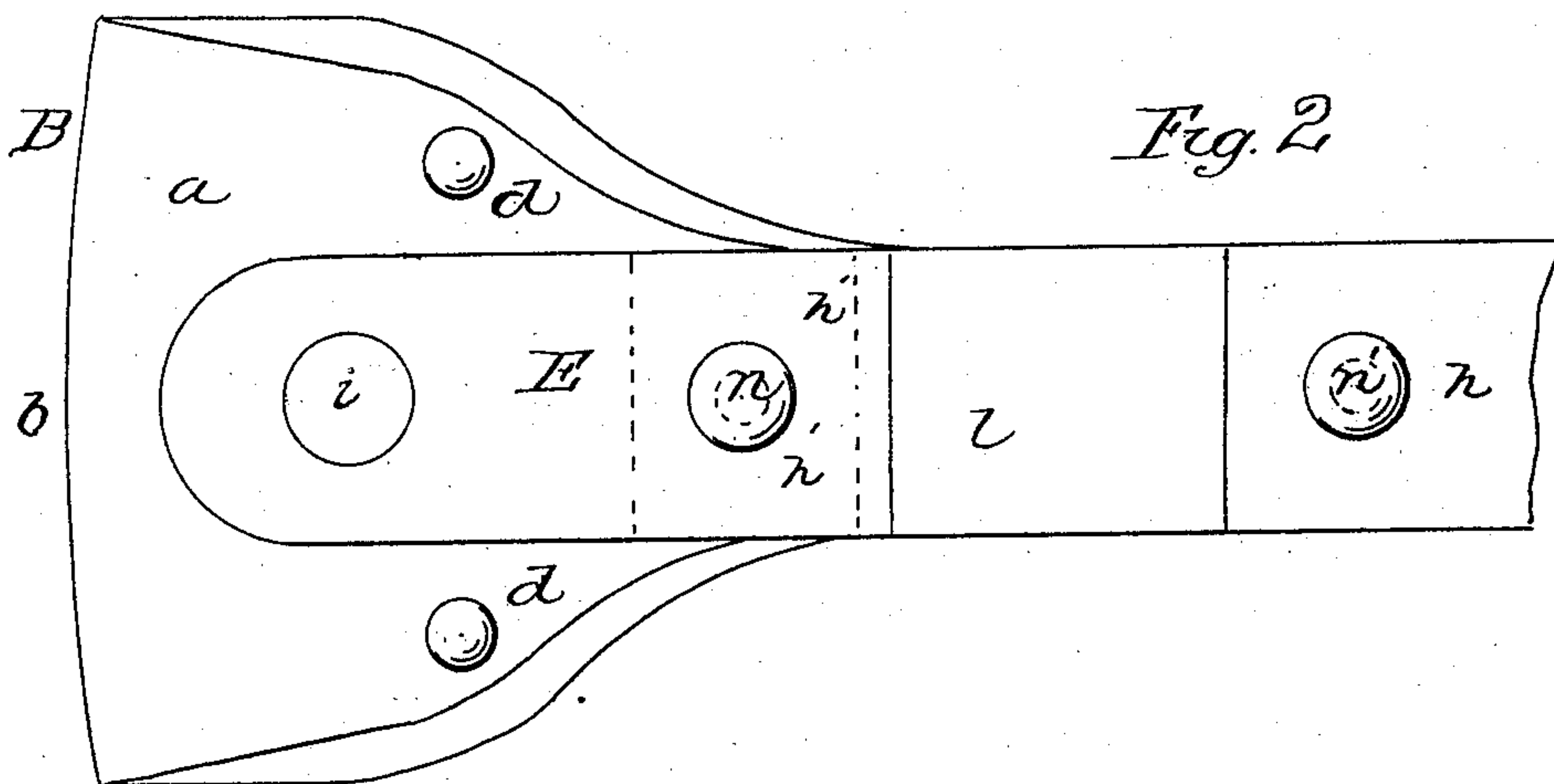
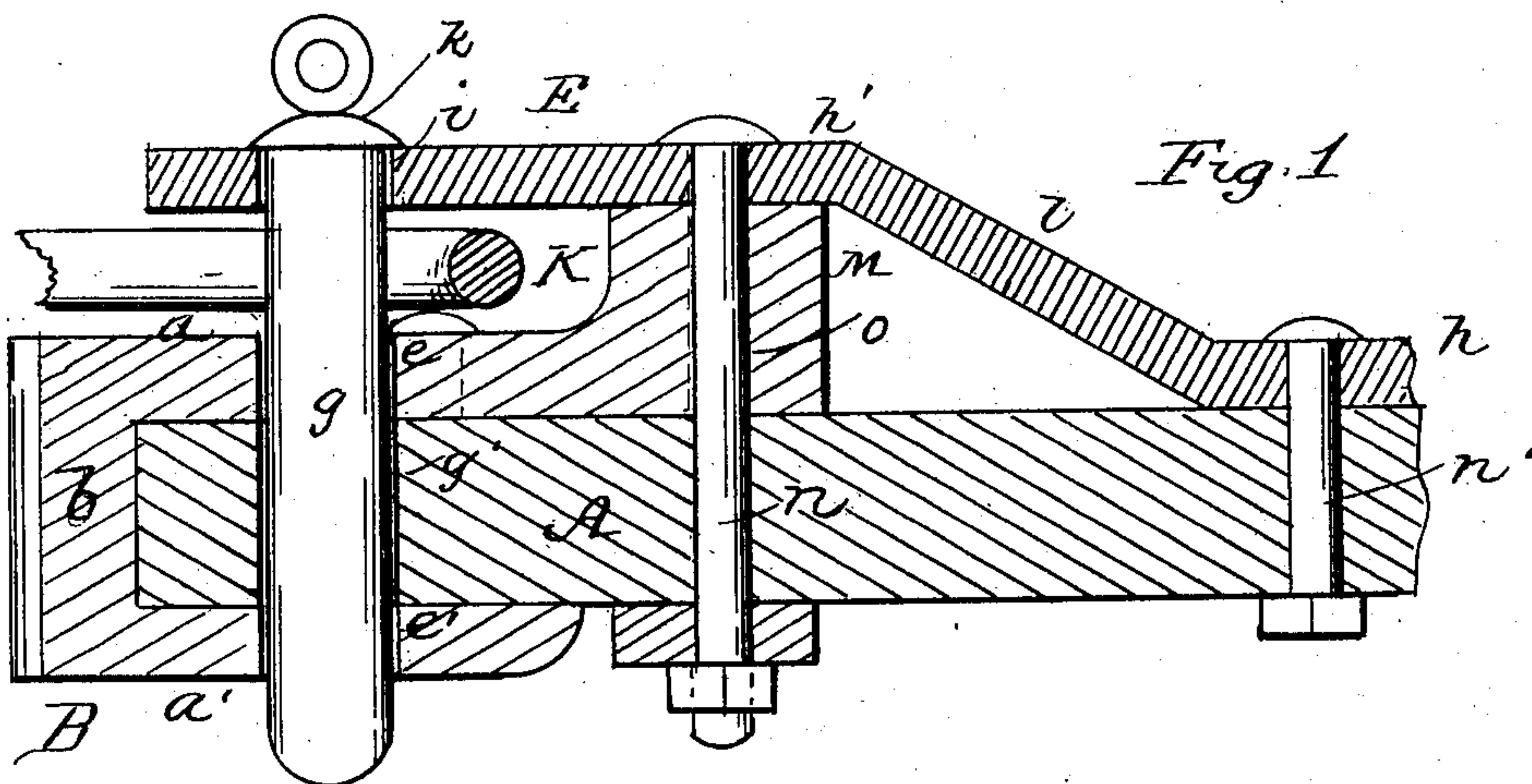
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PATENTED MAR. 1, 1904.

J. M. PHILLIPS.  
BUMPER AND COUPLING FOR MINE CARS.

APPLICATION FILED JULY 14, 1903.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN M. PHILLIPS, OF CARRICK, PENNSYLVANIA.

## BUMPER AND COUPLING FOR MINE-CARS.

SPECIFICATION forming part of Letters Patent No. 753,623, dated March 1, 1904.

Application filed July 14, 1903. Serial No. 165,458. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. PHILLIPS, a citizen of the United States, residing at Carrick, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Bumpers and Couplings for Mine-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to bumpers and couplings for mine-cars, and has for its object the provision of a novel form of bumper whereby greater stability is given to the parts composing the bumper and coupling.

The invention consists in the novel construction of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of a portion of a mine-car with coupling and bumper in place. Fig. 2 is a plan view of the same.

A designates a part of the end framing of a mine-car and consists of a heavy wooden beam located at the end of the car.

B designates the bumper, consisting of a heavy casting comprising the parallel horizontal members united by the vertical member *b*, which latter has its face curved or made convex laterally, as shown, the members *a a'* being curved outwardly from their inner ends, so that the bumper is wider in front than at the rear. The bumper is secured to the beam A by vertical bolts *d d'*, and the members *a a'* are pierced, as shown at *e e'*, for the passage of the coupling-pin *g*, a corresponding hole *g'* being bored through the beam A.

E designates a bent plate, the lower horizontal member *h* of which is bolted to the bottom framing of the car, while the upper horizontal member *h'* extends forward over the bumper and is pierced near its forward end, as shown at *i*, for the passage of the coupling-pin *g*, which being formed with a head *k* rests on and is supported by the member *h'* when the pin is let down to couple cars.

It has been usual to construct bumpers for

mine-cars of a casting of U shape, the upper and lower members being of substantially equal length and with their surfaces parallel to each other and the members of uniform thickness throughout. The position of the coupling-link is in the space K between the top member of the bumper and the elevated member *h'* of the bracket E.

It has been customary to make the bracket E of the shape shown in the drawings and to limit the thrust of the coupling-link, to insert a block or filling of wood between the end of the bumper and the inclined member *l* of the bracket E, the block being secured in place by a vertical bolt passing through the member *h'* and through the framing of the car-bottom. As the block or filling is subjected to constant blows and thrusts from the coupling-pin, it is very soon broken away and destroyed, rendering frequent replacement necessary. In other old forms of pin-supporting brackets the two members are connected by a vertical member, which receives the thrust or blow of the coupling-link, but which is insecure and unreliable, as the blow of the coupling-link tends to bend the bracket and force it from its fastening, which latter consists of a bolt through the lower horizontal member of the bracket.

To obviate the defects and disadvantages of the old structures, I cast the bumper with a thick reinforcement or vertical enlargement M at the inner end of its top member *a*, which constitutes a filling and stop between the bracket E and the bumper and receives the thrust and impact of the coupling-pin. The bracket is secured in position by bolts *n n'*, passing, respectively, through its upper and lower members and through the end framing of the car, the bolt *n* passing also through a bolt-hole *o* in the enlargement M, as shown. The parts as constructed and arranged render the structure very firm and durable.

Having described my invention, I claim as new and desire to secure by Letters Patent—

1. A bumper for mine-cars, consisting of the casting A composed of the horizontal mem-



bers *a*, *a'* and vertical member *b*, the upper, horizontal member *a* being formed with the enlargement or reinforcement M at its inner end, to receive the thrust or blow of the coupling-link.

5 2. The combination of the bumper B, having the reinforcement or enlargement M at its inner end, and the rigid pin - supporting

bracket E extending forward of said enlargement, substantially as described. 10

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

JNO. M. PHILLIPS.

Witnesses:

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