

UNITED STATES PATENT OFFICE.

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DRAW-BAR AND COUPLING.

SPECIFICATION forming part of Letters Patent No. 692,156, dated January 28, 1902.

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To all whom it may concern:

Be it known that I, JOHN E. LIDDLE, a citizen of the United States, residing at Georgetown, in the county of Wise, State of Virginia, have invented certain new and useful Improvements in Draw-Bars and Couplers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to draw-bars and couplers, and is particularly intended for use in connection with mining-cars and other similar vehicles.

The invention has for an object to provide a construction of a draw-bar formed of separable sections interlocked at their point of connection and adapted to be bolted to the flooring of a car, so that either section may be removed or replaced without disturbing the other section.

A further object of the invention is to provide means at the coupler-heads of the bar for embracing the ends of the flooring to prevent the bar being torn away from the flooring when an upward strain is exerted thereon in the handling of the car and to obviate the use of all independent coupling devices.

Another object of the invention is to provide an improved construction of a coupler-head whereby the pin is adapted to be moved therein, but held against complete removal from the head.

Other objects and advantages of the invention will hereinafter appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan of a mining-car with the invention applied thereto. Fig. 2 is a longitudinal vertical section through the same. Fig. 3 is a perspective of the draw-bar and coupler with the sections separated, and Fig. 4 is a detail perspective of the coupler-head and pin therein.

Like letters of reference indicate like parts throughout the several figures of the drawings.

In the present application the invention is shown as applied to a mining-car, as shown at A, which is formed with side walls A' and opposite end gates A², each provided with any suitable securing means. The car-flooring is

here shown as composed of opposite planks or timbers A³, extended at each end beyond the car-body to form buffers A⁴, while intermediate thereof a shorter timber A⁵ is placed, to which the draw-bar B is secured. This draw-bar is formed in two sections B', having at their inner ends an interlocking hooked member B², disposed in opposite directions on each of the sections. The opposite end of each section is provided with a coupler-head comprising an upper lip C and a lower lip C', through which the pin C² is adapted to pass. The depending rib B³, which connects these lips, is provided with an inwardly-disposed flange B⁴, adapted to embrace the end of the floor-timber A⁵ and also the belt-iron A⁶ when the same is used. The draw-bar is secured to the upper surface of the floor-timber by any desired means—for instance, bolts B⁵, passed through suitable openings in the bar and floor—while the coupler-heads are further secured by bolts B⁶, passing through the parts just mentioned and also the flange B⁴ at the rear of the head.

In order to prevent the loss or displacement of the coupler-pin C² and to retain the same in constant position for use, an enlarged head C³ is formed upon the lower end of the pin and adapted to pass through an aperture C⁴, formed in the lower lip C' for that purpose, while the aperture in the upper lip C is of less diameter than the head C³ and only adapted to permit a free movement of the shank C⁵ of the pin. It will be obvious that the head C³ may be formed in any desired manner after the pin has been placed in position or before its location in the coupler-head.

The operation of the invention will be apparent from the foregoing description, and it will be seen that the interlocking connection between the sections of the bar removes the strain from the securing-bolts and transmits the same from one section to another, as in a continuous bar, while the divided structure permits the removal of an injured section and the insertion of a new section without disturbing the remaining part of the bar. This greatly facilitates the time and expense required for repairs in this character of car. It has also been found that the upward strain upon the draw-bar frequently twists or breaks off the bar at one of the bolt-holes, and to pre-

vent this difficulty the flange B¹ is provided, which embraces the end of the floor-timber, and thereby greatly strengthens the connection of the bar and also the coupler-head carried at the end thereof. This coupler-head when provided with a pin having an enlarged lower end presents a material saving in labor and expense, as the pin cannot be removed from the head, and thus lost or displaced, and is always in proper position for use when desired.

It will be obvious that changes may be made in construction and configuration and also the size of the several parts without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim is—

1. A draw-bar and coupler composed of two sections disposed in a single horizontal plane each provided at one end with interlocking hooked members one of which is offset from

its section to overlap the other, and means passing through said members for securing said parts to a car structure; substantially as specified.

2. In a car structure and in combination with a floor-timber thereof, a draw-bar composed of independent sections having an overlapping interlocking connection at their meeting ends, coupler-heads at the outer ends of said section, inwardly-disposed flanges at the rear of said heads to embrace the ends of the floor-timber, and a securing-bolt passed through said interlocking connection and the floor-timber to retain the parts in position; substantially as specified.

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

JOHN E. LIDDLE.

Witnesses:

D. E. CARICO,
C. HUNEYCUTT.