(No Model.)

G. D. WADLEY.

DRAW BAR.

No. 493,319. Patented Mar. 14, 1893.

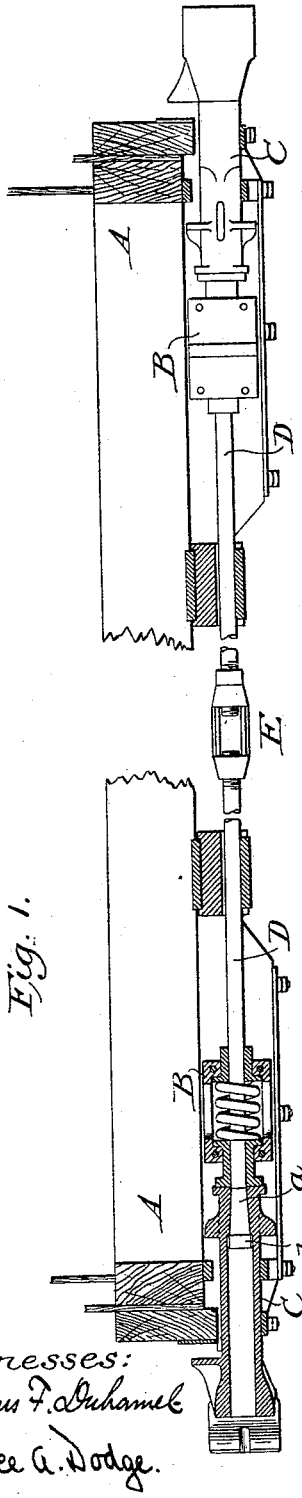

Fig. 1.

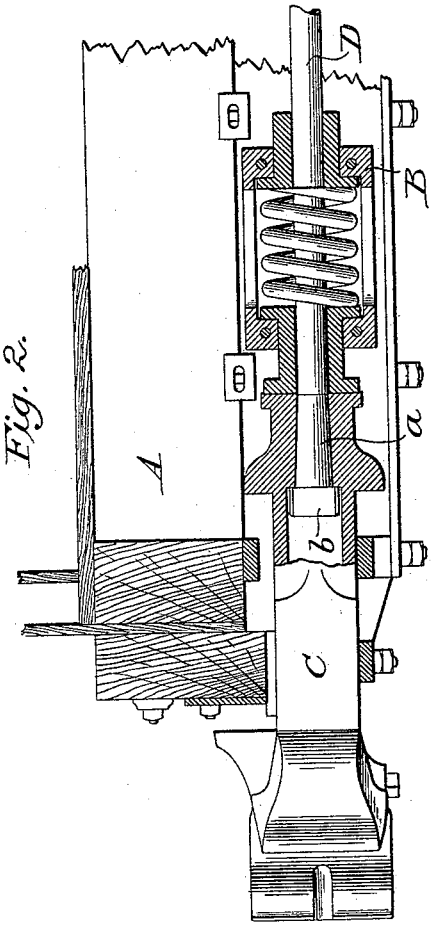

Fig. 2.

Witnesses:
James F. Duhamel
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UNITED STATES PATENT OFFICE.

GEORGE DOLE WADLEY, OF SAVANNAH, GEORGIA.

DRAW-BAR.

SPECIFICATION forming part of Letters Patent No. 493,319, dated March 14, 1893.

Application filed January 3, 1893. Serial No. 457,038. (No model.)

To all whom it may concern:

Be it known that I, GEORGE DOLE WADLEY, a citizen of the United States, residing at Savannah, in the county of Chatham and State of Georgia, have invented certain new and useful Improvements in Draw-Bars, of which the following is a specification.

My invention relates to that class of draw-gear for railway and other cars, in which a continuous draw-bar or rod connects the draw-heads at opposite ends of the car; and it consists in forming that part of the draw-rod within the neck of the draw-bar, of conical or tapering form, largest at the outer extremity, and making a corresponding seat or recess for said enlargement in the draw-head. By this construction I prevent the separation of the draw-head and draw-rod in the event of breaking off of the usual bolt head, or the working off of the nut which alone holds the parts together under the ordinary construction.

In the accompanying drawings,—Figure 1 is a view of a draw-head and draw-bar embodying my invention, the parts being shown partly in side elevation and partly in section; and Fig. 2 is an enlarged view of the draw-rod and draw-head as shown in Fig. 1.

Heretofore it has been customary to form the draw-heads with a hollow or tubular body, closed at the rear or inner end except for a cylindrical hole for the introduction of a draw-rod; and it has also been the practice to make the draw-rod of cylindrical form except for a bolt-head or abrupt enlargement, fitting within the tubular body and bearing against the inner or rear end wall of the draw-head. In some instances, the entering end of the draw-rod has been threaded and furnished with a nut within the draw-head.

It is well known that wherever a well defined angle is formed in a body subject to strain, a fracture is apt to begin at such angle; and where the size of the body is reduced by the formation of a screw thread, the danger of breakage is enhanced. In consequence of this fact it not unfrequently happens that the draw-rods break at the point where the head is formed, or where the thread is cut, and the draw-head is thus left free to pull off the rod, or the rod to pull out of the draw-head. To prevent consequent separation of the cars of a train, the draw-heads are commonly made with lugs, stops, or shoulders, which are designed to engage with the timbers, stays, or metal straps of the car platforms, and prevent complete withdrawal; but the extent of play necessarily permitted, and the suddenness and severity of the strain, in the nature of a stroke or blow, not unfrequently cause the stops to cut or break their way through the parts with which they come into contact. I obviate these difficulties by the construction represented in the annexed drawings, wherein A indicates the framing of the car platform, sills, &c.; B, a spring-casing or box, containing a spring or springs to take up the shock and concussion occasioned by drawing, buffing or pushing; C, a draw-head; D the draw-rod or bar; and E a turn-buckle employed to connect and adjust the two parts of said draw-rod, which jointly extend from end to end of the car, and connect the two draw-heads.

The continuous draw-rod, the spring-boxes or casements, and springs, and the turn-buckle are not of my present invention, but are illustrated for the purpose of making clear the purposes and advantages of such invention.

As shown in both figures, but more plainly in Fig. 2, the outer end of the draw-rod, or draw-rod section, is enlarged, and made of conical form, the base or larger end of the enlargement *a* being at or near the outer extremity of said rod or section. The opening made through the otherwise closed end of the draw-head for the reception or passage of the rod D, is of a form and size to correspond with and closely fit the enlarged end of the rod, as shown. In addition to the conical enlargement *a*, the rod is advisably furnished with a T-head *b*, as shown in both figures. The draw-head being made tubular or hollow, the draw-rod section can be inserted from the forward or outer end thereof, and carried back until the enlargement *a* enters properly into its seat; the separation of the rod into two sections permitting each section to be thus introduced, and the turn-buckle enabling the constructor or other person to properly adjust the parts. The conical enlargement should join the body of the draw-rod at a very obtuse angle, or better, by a curve, so that no starting point for fracture shall be produced. The security against accidental breaking apart of

trains afforded by this seemingly simple invention, gives to it great practical value, and has already secured its adoption by one of the leading railways of the country. It is not essential that the enlargement be of true conical form, a gradual enlargement being all that is necessary. The long and gradual taper is to be distinguished from the slight bevel of the under or inner face of the bolt head, common to various forms of bolts, which produces an angle of about forty-five degrees and does not appreciably lessen the danger of fracture, if at all.

Having thus described my invention, what I claim is—

1. In combination with the draw-head of a railway car, a draw-rod or bar having a conical or tapering enlargement seated within said draw-head, and joining the body of the rod at so slight an angle as to avoid the formation of a shoulder or well defined line at the meeting point.

2. In combination with draw-heads C, C, a draw-rod D connecting said draw-heads, and consisting of two sections united by a turn-buckle E, the ends of the draw-rod sections within the draw-heads being formed with conical or tapering enlargements of long and gradual taper, substantially as and for the purpose set forth.

In witness whereof I hereunto set my hand in the presence of two witnesses.

GEO. DOLE WADLEY.

Witnesses:
T. H STONE,
R. H. BROWN.