No. 860,932. PATENTED JULY 23, 1907.

J. E. MUHLFELD.

DRAFT RIGGING.

APPLICATION FILED NOV. 26, 1906.

Fig. 1

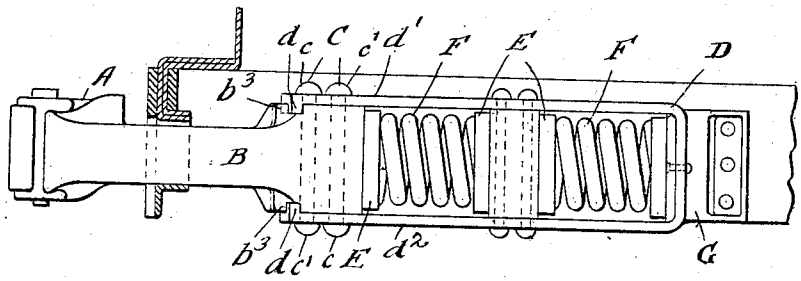


Fig. 2

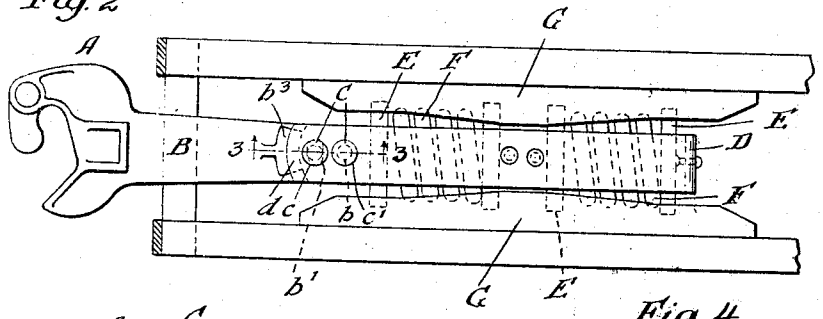


Fig. 3

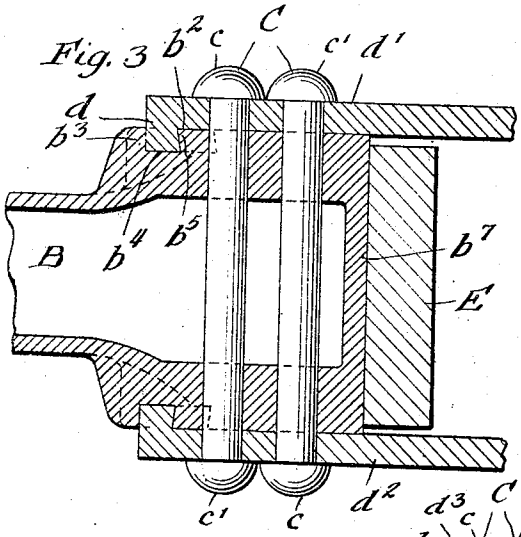


Fig. 4

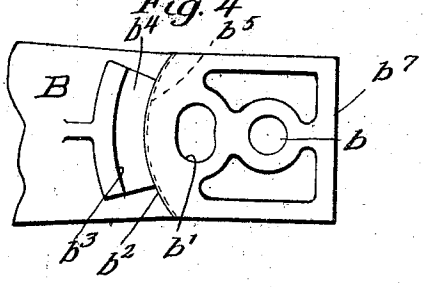


Fig. 5

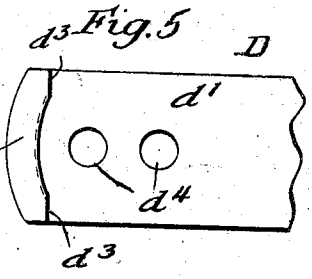
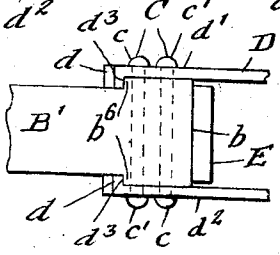


Fig. 6



Witnesses:

Wm. Geiger

A. M. Hunday,

Inventor:

John E. Muhlfeld

By Munday, Evarts Adcock & Clark.

Attorneys

UNITED STATES PATENT OFFICE.

JOHN E. MUHLFELD, OF BALTIMORE, MARYLAND.

DRAFT-RIGGING.

No. 860,932. Specification of Letters Patent. Patented July 23, 1907.

Application filed November 26, 1906. Serial No. 345,206.

To all whom it may concern:

Be it known that I, JOHN E. MUHLFELD, a citizen of the United States, residing in Baltimore, in the State of Maryland, have invented a new and useful Improvement in Draft-Rigging, of which the following is a specification.

My invention relates to improvements in draft rigging, and more particularly to improvements in the means for connecting the draw-bar and yoke for cars or locomotives.

In draft rigging heretofore generally in use, wherein the draft yoke is rigidly connected at its front end to the rear end of the draw-bar by a pair of rivets and interengaging gibs or shoulders on the yoke and draw-bar, the rigid construction tends to lift the high side wheels from the track rail in passing around short curves and exerts a shearing strain on the connecting rivets and yoke, and makes it difficult to couple or uncouple cars when on a curved track or where a curved track joins a straight track.

The object of my invention is to provide a simple, strong, efficient and durable draw-bar and draft yoke construction and connection in which the draw-bar may swing laterally to a limited extent as required for coupling on curves, and for enabling coupled cars to pass freely around short curves, or where curves join straight tracks without exerting any shearing strains on the rivets or connecting gibs between yoke and draw-bar; and in which, notwithstanding the pivotal connection between the draw-bar and yoke, the same shall have a safe and substantial fastening capable of successfully withstanding the great strains or blows to which draw-bars and draw-bar yokes are subjected in practical use; and in which, at the same time, the construction shall also be such as will allow the Master Car Builders' standard coupler to be applied when repairs are necessary on a foreign railroad line without renewal or alteration of the yoke.

My invention consists in the means I employ to practically accomplish this object or result, the same being shown in the accompanying drawing and hereinafter described and more particularly pointed out in the claims.

In the accompanying drawing forming a part of this specification, Figure 1 is a side elevation partly in vertical section of a draft rigging embodying my invention. Fig. 2 is a plan view partly in horizontal section. Fig. 3 is an enlarged central longitudinal section on line 3—3 of Fig. 2 through the connection between the draw-bar and yoke. Fig. 4 is a detail plan view of the rear end of the draw-bar, the same also indicating the bottom face thereof, as the top and bottom faces are preferably identical in construction. Fig. 5 is a detail inside face view of one limb of the yoke. Fig. 6 is a detail view illustrating the application of my improved draw-bar yoke to an ordinary standard Master Car Builder coupler when this is necessary for repairs.

In the drawing, A represents a car coupler, B the draw-bar, D the yoke and C C the connecting rivets extending through the rear end of the draw-bar and through the front ends of the yoke.

E are the followers of the draft rigging, F the springs and G the side plates or stop castings.

The draw-bar B, at the rear end thereof, is furnished with two rivet openings b b^1, one of the same, preferably the rear one, being circular and the other, preferably the front one, being a slot or elongated transversely, and preferably a curved slot about the other rivet hole b as a center. The rear end of the draw-bar is also provided on each of its upper and lower faces with two curved shoulders b^2 b^3 forming a curved slot or recess b^4 between them to receive the curved gib or shoulder d at the front end of the yoke. The rear curved shoulder b^2 on the draw-bar preferably has an undercut b^5 to give a better hold upon the curved gib or shoulder d of the yoke. The curved gibs or shoulders d on the upper and lower limbs d^1 d^2 of the yoke D are truncated or provided with straight portions d^3 at each side or end to engage the shoulder b^6 of an ordinary standard Master Car Builders' draw-bar B^1, as shown in Fig. 6, when it is necessary to replace my draw-bar B therewith in making repairs or replacement on another road. The draw-bar strap D is furnished with holes d^4 d^4 to receive the rivets C C by which the draw-bar is pivotally connected with the yoke. It will be understood that the rivet holes or openings b b^1 in the draw-bar and d^4 d^4 in the yoke D are placed the standard distance apart as in standard Master Car Builder couplers now generally in use and that the straight shoulder d^3 on each limb of the yoke is also located in relation to the rivet holes for coöperation with the gib or shoulder b^6 on the draw-bar B^1 of the standard couplers now in use: so that the standard couplers may be readily applied to my improved construction of yoke when necessary for repairs, and when couplers having my improved construction of draw-bar are not at hand. The curved gibs or shoulders b^2 b^3 on the draw-bar are struck about the pivot hole b as a center and the curved portion of the gib d on the yoke D is also struck about the rear rivet hole d^4 as a center.

In my improved construction of draft rigging with the draw-bar pivotally connected to the yoke by a number or connecting rivets and interengaging curved gibs or shoulders, the front draft rigging spring and the front follower operate to automatically center the draw-bar or retain it in its central position as the draw-bar cannot swing to one side without causing some compression of the spring, owing to the flat or square face b^7 at the rear end of the draw-bar which engages the front follower, and as the spring is always

under some tension. At the same time, the draw-bar is sufficiently flexible to move laterally to the limited extent required for coupling on curves or where tangents join curves or to enable the train of coupler cars to pass over curves, etc. The oblong hole or slot b^1 in the draw-bar through which one of the rivets passes in connection with the rivet, limits the laterally swinging movement of the draw-bar by contact of the rivet with the walls of the oblong hole or slot to the small extent necessary to enable the train of cars to pass around curves, etc., and thus prevents excessive lateral movement of the draw-bar and consequent jackknifing or toggling of the yoke and draw-bar under buffing stresses. In my improved construction, it will also be seen that the interengaging curved gibs or shoulders on the draw-bar and yoke serve to operate to take both pulling and buffing stresses and thus to relieve the rivets in part from strain or shearing action.

In practice the rivets C are preferably driven from opposite sides, so that one of the two rivets may have a tight fit in each limb of the coupler yoke, the limb on the side from which the rivet is driven, as this affords a closer and snugger connection of one with the least possible amount of play and puts the stress more uniformly upon both limbs of the yoke. The heads c c of the rivets C C and the riveted ends c^1 c^1 thereof thus engage opposite limbs of the yoke.

In the drawing, I have illustrated my invention as applied to the more customary construction where but two rivets are employed to connect the draw-bar and yoke, one of the rivets passing through a hole in the draw-bar and serving as the pivot about which the draw-bar swings, and the other passing through an elongated hole or transverse slot in the draw-bar. If the number of connecting rivets is increased, it will of course be understood that all the rivets excepting the one which serves as the pivot about which the draw-bar swings, will pass through slots in the draw-bar so that the draw-bar can turn laterally as required.

I claim:—

1. In a car coupler draft rigging, the combination with the draw-bar furnished at its rear end with a rivet hole and a transversely elongated rivet opening or slot, and provided on its upper and lower faces at its rear end with front and rear curved shoulders or gibs, of a yoke having on its upper and lower limbs curved gibs or shoulders engaging the curved gibs or shoulders on the draw-bar and rivets extending through the draw-bar and yoke, the curved gibs on the yoke having truncated or straight shoulders adapted to fit and engage the gibs or shoulders on a standard or Master Car Builder's coupler, substantially as specified.

2. The combination with a draw-bar yoke, of a draw-bar pivotally connected thereto and a pair of connecting rivets about one of which the draw-bar swings as a pivot, the draw-bar and yoke having interengaging curved gibs or shoulders, the gibs or shoulders on the yoke being also adapted to fit and engage the draw-bar of the ordinary or standard coupler substantially as specified.

3. The combination with a draw-bar yoke, of a draw-bar and a pair of connecting rivets, the draw-bar having a transversely extending slot for one of the rivets, the yoke being provided with curved gibs or shoulders on its upper and lower limbs, and the draw-bar being provided on its upper and lower faces with front and rear curved gibs or shoulders fitting and engaging the curved gibs or shoulders on the yoke, the rear curved gib or shoulder on the draw-bar and the corresponding face of the curved gib or shoulder on the yoke being under cut, substantially as specified.

JOHN E. MUHLFELD.

Witnesses:
F. W. BUSSE,
H. M. BLANKENSHIP.