Our invention relates to draft, rigging, for railway cars, and particularly, to a novel arrangement for connecting the yoke and associated parts, such as the coupler and draft gear, and is designed, particularly, as a means of adjusting the effective length of the draft gear pocket in the yoke. Hence, devices have been utilized for adjusting the length of the draft gear pocket in the yoke.

The general object of our invention is to provide a substantially slack free connection between the yoke and the draft gear, which is normally carried therewith, by adjustable means associated with said yoke adapted to modify the length of the draft gear pocket of said yoke as may be desirable.

Our novel arrangement comprehends a structure, which is simple and relatively easy to apply and is so designed as to be adapted to ready manufacture with reasonable tolerances.

In the drawings, Figure 1 is a fragmentary side elevation of a yoke embodying our invention, only the rear end of the yoke being shown, the structure being generally well known in the art.

Figure 2 is a top plan view of the yoke structure shown in Figure 1.

Figure 3 is an end or rear elevation of the structure shown in Figures 1 and 2, taken from the right as seen therein.

Figure 4 is a further view as seen from the bottom and taken approximately in the diagonal plane, indicated by the line 4-4 of Figure 1.

Figure 5 is a fragmentary view comparable to Figure 1, and illustrating the parts in position of maximum take-up.

Figure 6 is a further view comparable to Figure 1, illustrating the parts in position of assembly.

Figures 7, 8, and 9 show the detail of our novel form of adjusting wedge, Figure 7 being a side elevation thereof, Figure 8 a rear elevation, and Figure 9 a top plan view.

Figures 10 and 11 show our novel form of adjusting screw, Figure 10 being a side elevation thereof, and Figure 11 an end view taken from the shank end thereof.

Describing the structure in detail, it may be noted that the yoke generally designated 1 is of the vertical type having the top web 4, the bottom web 6, merging with the diagonal end wall 8, the lateral edges of which may be reinforced by the spaced webs 10 and 12, and the diagonal web 8, forming a triangular pocket, generally designated 9. On the inner face of the diagonal web 8 adjacent the upper end and centrally thereof may be formed the inwardly projecting T-shaped lug or key 14.

At the bottom of the pocket 9 may be formed an angularly arranged seat 11 (Figure 6) which may afford a rest for the annular shoulder 13 of the adjusting screw 15 (Figure 10), said screw having a T-shaped shank or lower end 11 which may be passed through the elongated slot 19 as the adjusting screw or bolt is assembled with the yoke with the threaded end thereof projecting upwardly into the pocket 9.

The adjusting wedge 18, shown in detail in Figures 7, 8 and 9, may be brought into engagement with the threaded end of the bolt 19 and said bolt or screw turned into normal engagement therewith until the wedge 18 seats on the bottom web 6 as at 20 (Figure 6). Said wedge 18 may then be rotated as indicated by the arrow at 22, to the normal operative position illustrated in Figure 2, where the front face 24 of said wedge may be approximately vertically positioned for abutment with the end of the draft gear normally positioned within the yoke pocket. After the wedge 18 is rotated into position, the adjusting screw 15 may be turned along the threaded engagement, at 28 with the wedge 18 until said wedge 18 is elevated sufficiently so that the T-shaped slot 30 in the top thereof may engage as at 32 the lower edge of the aforementioned T-shaped lug or key 14, said key being effective to maintain the upper end of said wedge 18 in normal upright position. When in said normal upright position, the wedge 18 may be caused to slide along the diagonal web 8, which it abuts along the sloping rear face 34 thereof (Figure 7).

When the wedge 18 is in normal operative position, the vertical lateral flanges 36, 38 thereof may overlap as at 38, 38 (Figure 2) the inner vertical edges of the side walls or webs 10 and 12, and the vertical lateral faces 40, 40 of said wedge may be closely confined between said side walls 10 and 12, as well illustrated in said Figure 2.

At the extremity of the lower web 6 and on the outer face thereof may be formed the spaced lugs 42, 42, spaced sufficiently to permit rotation therebetween of the T-shaped shank 17 of the adjusting screw 15, said lugs 42, 42 having aligned openings through which may extend the cotter key 54, said key serving as means for retaining said adjusting screw against rotation after the adjusting wedge has been moved into its desired vertical position.

As seen in Figure 1, the wedge 18 is elevated
just sufficiently to permit cooperative engagement of the lug 14 with the slot 30. In Figure 5, the wedge 18 is illustrated as elevated to its topmost position, representing maximum possible take-up of the slack in the yoke. In said topmost position the upper end of the wedge 18 seats as at 46 in the shallow recess 48 formed in the top web 4. At the same time, the T-shaped lug 14 is approximately at the bottom of the slot 30, as may be noted at 50 (Figure 5). When in this topmost position, there is still a slight engagement with the lower portion of the wedge 18, as clearly seen at 52.

In our novel arrangement, substantial bearing areas are afforded at the front face 24 of the adjusting wedge where it may seat against the enclosed draft gear and also large bearing area is provided for said wedge to seat against the diagonal web 8 at the rear of the yoke, and said wedge is also, as previously indicated, closely confined between the side webs or walls 10 and 12.

The wedge 18 is maintained in normal vertical position by its cooperative engagement with the lug 14 but no strain is placed on said lug except that required to support the weight of said wedge in said vertical position.

It is to be understood that we do not wish to be limited by the exact embodiment of the device shown which is merely by way of illustration and not limitation as various and other forms of the device will, of course, be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

We claim:

1. In a draft arrangement, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, a diagonal member at the rear of said yoke defining with said webs a substantially triangular pocket, means in said pocket projecting into said opening for adjusting the effective length thereof, comprising a wedge slidably along said member, an adjusting screw within said pocket in threaded engagement with said wedge for moving said wedge upwardly along said member, thereby adjusting the effective length of said opening, means on said diagonal member and said wedge for maintaining said wedge in normal vertical position, said last-mentioned means comprising a T-shaped lug on said member and a complementary pocket in said wedge opening at the top thereof and receiving said lug, the lower of said horizontal webs having a diagonal portion forming a seat, a shoulder on said screw seated on said seat, and an elongate slot in said lower web extending through a portion of said seat, said screw having a T-shaped shank adapted to pass through said slot in a single rotatable position of the screw, and releasable engaging means on said yoke and said screw for fixing said screw against rotation.

2. In a draft arrangement, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, a diagonal member at the rear of said yoke defining with said webs a substantially triangular pocket, means in said pocket projecting into said opening for adjusting the effective length of said opening, comprising a wedge slidably along said member, an adjusting screw within said pocket in threaded engagement with said wedge and operable to move said wedge upwardly and downwardly for adjusting the effective length of said opening, means on said diagonal member engaging the top of said wedge to maintain said wedge in normal vertical position, said last-mentioned means comprising a T-shaped lug received in a complementary pocket in said wedge, the lower of said horizontal webs having a diagonal portion forming a seat, and a shoulder on said screw intermediate the ends thereof seated on said seat.

3. In a draft arrangement, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, a diagonal member at the rear of said yoke defining with said webs a substantially triangular pocket, means in said pocket projecting into said opening for adjusting the effective length of said opening, comprising a wedge slidably along said member, an adjusting screw within said pocket in threaded engagement with said wedge and operable to move said wedge vertically for adjusting the effective length of said opening, means on said diagonal member engaging the top of said wedge to maintain said wedge in normal vertical position, said last-mentioned means comprising a T-shaped lug received in a complementary pocket in said wedge, the lower of said horizontal webs having a diagonal portion forming a seat, and a shoulder on said screw intermediate the ends thereof seated on said seat.

4. In a draft connection, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, said yoke having at the rear thereof an integral diagonal member defining with said webs a pocket extending into said opening and a wedge in said pocket slidably along said member for varying the effective length of said opening, and rotatable means positioned in the lower of said horizontal webs in retaining engagement with said wedge for adjusting the vertical position thereof, said diagonal member having means engaging with said wedge for maintaining substantially vertical position thereof, said means comprising a T-shaped lug engageable in a complementary slot at the top of said wedge, said wedge being upwardly moveable along said diagonal member to seat in a recess in the upper of said horizontal webs above said pocket.

5. In a draft arrangement, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, a diagonal member at the rear of said yoke defining with said webs a substantially triangular pocket projecting into said opening, and means in said pocket for adjusting the effective length thereof, comprising a wedge slidably along said member, an adjusting screw seated on the lower of said horizontal webs within said pocket in threaded engagement with said wedge and operable to move said wedge diagonally for adjusting the effective length of said opening, and means on said diagonal member engaging the top of said wedge to maintain said wedge in normal vertical position, said last-mentioned means comprising a T-shaped lug received in a complementary pocket in said wedge.

6. In a draft connection, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, said yoke having at the rear thereof an integral diagonal member defining with said webs a pocket projecting into said opening and a wedge in said pocket slidably along said member for varying the effective length of said opening, and rotatable means positioned in the lower of said horizontal webs in retaining engagement with said wedge for ad-
justing the vertical position thereof, said diagonal member having means engaging said wedge for maintaining substantially vertical position thereof, said means comprising a T-shaped lug engageable in a complementary slot at the top of said wedge.

7. In a draft arrangement, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, a diagonal member at the rear of said yoke defining with said webs a substantially triangular pocket, and means in said pocket projecting into said opening for adjusting the effective length thereof, comprising a wedge slidable along said member, an adjusting screw seated on the lower of said horizontal webs within said pocket in threaded engagement with said wedge and operable to move said wedge upwardly for adjusting the effective length of said opening and having spaced integral means intermediate the ends thereof loosely engaging said lower web therebetween, and means adjacent the top of said diagonal member engaging the top of said wedge to maintain said wedge in normal vertical position, said wedge in its lowestmost operative place being in engagement with said last-mentioned means and retainable in a vertical position in said place by said last-mentioned means and said screw.

8. In a draft connection, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, said yoke having at the rear thereof an integral diagonal member defining with said webs a pocket, a wedge in said pocket projecting into said opening and slidable along said member for varying the effective length of said opening, and rotatable means extending through the lower of said horizontal webs in holding engagement with said wedge for adjusting the vertical position thereof and having integral means seated upon the top surface of said lower web and rotatable thereon, said diagonal member having means adjacent the top thereof engaging said wedge for maintaining substantially vertical position thereof from the lowestmost to the uppermost operative positions thereof, said rotatable means being operable to move said wedge to a place below its lowestmost operative position to disengage it from said means on said member to permit removal of said wedge from said pocket.

9. In a draft arrangement, a yoke member having a pocket comprising a diagonal end wall, an adjusting member at one end of said yoke member and projecting into said pocket and in engagement with said wall, said adjusting member being slidable along said wall for varying the effective length of said pocket, means on one of said members cooperating with the other member for moving said adjusting member along said wall, and interengaging means on said adjusting member and said wall for, together with said first-mentioned means, holding said adjusting member against said wall in predetermined operative positions, said interengaging means disengaging when said adjusting member is moved to its nonoperative position whereby said adjusting member may be disassembled from said yoke member.

10. In a draft arrangement, a yoke having vertical and horizontal webs defining a rectangular opening for a draft gear, a diagonal member at the rear of said yoke defining with said webs a substantially triangular pocket projecting into said opening, and means in said pocket for adjusting the effective length thereof, comprising a wedge slidable along said member, an adjusting screw within said pocket in adjustable engagement with said wedge and operable to move said wedge along said member for adjusting the effective length of said opening, means on said member engaging the top of said wedge to hold said wedge in normal vertical position, said last-mentioned means comprising a T-shaped lug received in a complementary pocket in said wedge, one of said horizontal webs having a diagonal portion forming a seat, a shoulder on said screw seated on said seat and an elongate slot in said one web in overlapping arrangement with said seat, said screw having a T-shaped shank adapted to pass through said slot in a single position of rotation, and means on said yoke adapted to engage portions of said shank for fixing said screw against rotation.

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Certificate of Correction


EDMUND P. KINNE ET AL.

It is hereby certified that errors appear in the printed specification of the above numbered patent requiring correction as follows:

Column 4, lines 34 and 70, after the word "pocket" insert a comma; same column lines 34 and 35, strike out "extending into said opening and" and insert the same before "slidable" in line 35; lines 53 and 54, strike out "projecting into said opening" and insert the same after "pocket" in line 54; lines 70 and 71, strike out "projecting into said opening and" and insert the same before "slidable" in line 71; column 6, lines 19 and 20, strike out "projecting into said opening" and insert the same after "pocket" and before "for" in line 20;

and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of April, A. D. 1949.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.