To all whom it may concern:

Be it known that I, CALVIN B. PATCH, a citizen of the United States, residing at Glenellyn, in the county of Dupage and State of Illinois, have invented a certain new and useful Improvement in Detachable Draw-Bar and Yoke Connections, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in detachable draw bar and yoke connections.

The object of the invention is to provide means detachably connecting a yoke and draw bar of a railway draft rigging and so arranged as to utilize the standard rivet holes usually provided in the draw bar and yoke strap, whereby old yoke straps of the riveted type may be employed in the detachable connection.

In the drawing forming a part of this specification, Fig. 1 is a part longitudinal, vertical section, part side elevation of a draw bar and yoke showing my improvements in connection therewith. Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 3. Fig. 3 is a similar view, but taken on the line 3—3 of Fig. 1. Fig. 4 is a detail perspective of one of the pin members employed with the structure illustrated in Figs. 1, 2 and 3. And Fig. 5 is a view corresponding to Fig. 1, but illustrating another embodiment of my invention.

In said drawing, and referring to the structure illustrated in Figs. 1 to 4, 10 denotes the butt of a standard draw bar having the usual upper and lower shoulders 11 and 12 and provided with the usual standard rivet holes 13—13 in the top and bottom walls thereof. The yoke 14 is of the usual U-shaped type such as commonly employed in the riveted types of draw bar and yoke connections, said yoke 14 having upper and lower arms 15—15, each of which is provided at its front end with an interned gib 16 adapted to engage the corresponding butt shoulders 11 and 12. Each of said arms 15 is also provided with standardly spaced rivet holes 17—17 that are alined with the draw bar rivet holes, when the draw bar and yoke strap are assembled.

In order to provide a detachable connection between the draw bar and yoke strap, I employ four relatively short pins 18—18 which, for convenience in manufacturing and assembling, are united in pairs by means of a flat plate 19, said plate 19 uniting each pair of pins 18 substantially at the center thereof. These pins, in pairs or couplets, are first applied to the butt of the draw bar after which the yoke arms are sprung thereto, as viewed in Fig. 1. In order to prevent spreading of the yoke arms and to ensure retaining the pins in proper position, I provide a band 20 of hollow rectangular form, the lower wall of which is provided with a longitudinally extending partition or division line 21. The band 20 is provided across the top wall thereof on the inner side with a shoulder or gib 22 which engages in front of the front upper pin 18. In its lower wall, the band 20 is provided with recesses 23—23 to accommodate the ends of the pins which in all instances are extended slightly beyond the corresponding outer surfaces of the yoke arms. The band is assembled with the yoke strap, draw bar and pins by slipping the band rearwardly over the yoke strap and draw bar butt, the bottom of the band being spread apart during this operation, which is permitted on account of said division line 21. After the band is slipped rearwardly sufficiently for said shoulder 22 to engage the upper front pin 18, the parts of the band are then permitted to close together, thus seating the lower wall of the band over the lower pins 18—18 and the parts of the band are then secured together by any suitable detachable means, such as the cotter 24.

With the arrangement above described, it is apparent that I am enabled to employ old yoke straps of the riveted type with standard draw bars and at the same time provide a connection between the yoke strap and draw bar that permits separation of the latter without destructive effort. It will also be noted that, if the band is assembled as above described, it is prevented from longitudinal movement with respect to the yoke by the pins 18—18.

In the construction illustrated in Fig. 5, the arrangement of draw bar and yoke strap is the same as that illustrated in the other figures. In this construction, however, I preferably employ four short rivets or, plus 118—118 having their outer ends
headed as indicated at 25 to prevent said rivets or pins from falling into the interior of the draw bar butt. In this construction the band is formed of two separable halves 120—120, having longitudinally extending division lines in their top and bottom walls. Said top and bottom walls are suitably recessed as indicated at 26—26 to fit over the heads of the rivets or pins, it being understood that said band members 120—120 are applied laterally, that is, each is moved inwardly toward the center line of the draw bar from the sides. In order to hold the two band members together, when properly assembled, the same are provided with overlapping perforated ears 27—27 on the tops and bottoms thereof, said perforated ears being adapted to receive cotter or other suitable retaining means 28—28.

In the last described construction, it is also apparent that I am enabled to employ old yoke straps of the riveted type without modification and when the parts are assembled, the removable rivets or pins will prevent longitudinal movement of the band with respect to the yoke and the band will, of course, retain the pins in position and prevent separation of the yoke arms from the draw bar.

I claim:

1. The combination with a draw bar and yoke strap having standardly spaced and aligned rivet receiving holes when assembled, of pins detachable with respect to said yoke and draw bar and extending into said aligned holes, and a band, separate from said pins, and encircling the draw bar butt and ends of the yoke strap; the upper and lower walls of said band fitting over the outer ends of all of said pins and adapted to engage therewith to thereby retain all of the parts in operative position.

2. The combination with a draw bar and yoke strap having aligned holes when assembled, of detachable and removable pins extending within said holes, said pins having their outer ends extended beyond the corresponding outer surfaces of the yoke strap, and a band fitting over said extended ends of the pins and prevented from longitudinal movement on the yoke thereby.

3. The combination with a draw bar and a yoke strap having aligned holes when assembled, of pins detachable with respect to the yoke and draw bar and extending into said aligned holes, and a band, separate from said pins, surrounding the draw bar and yoke strap and adapted to retain the parts in operative position, said band having a longitudinal line of division in its lower wall, and detachable means for holding the divided portions of the band together, the divided portions of the band being adapted to be separated in a direction transversely of the draw bar.

4. The combination with a draw bar and yoke strap having aligned pairs of holes at the top and bottom thereof, when assembled, of upper and lower sets of pins extending into said holes, each set comprising a pair of pins integrally united, and a band surrounding the draw bar, yoke strap and said pins, said band having the lower wall thereof split whereby the same is adapted to be sprung over said pins.

In witness that I claim the foregoing I have hereunto subscribed my name this 5th day of Jan., 1917.

CALVIN B. PATCH.