

J. TIMMS.  
DRAFT RIGGING.  
APPLICATION FILED AUG. 28, 1909.

990,684.

Patented Apr. 25, 1911.

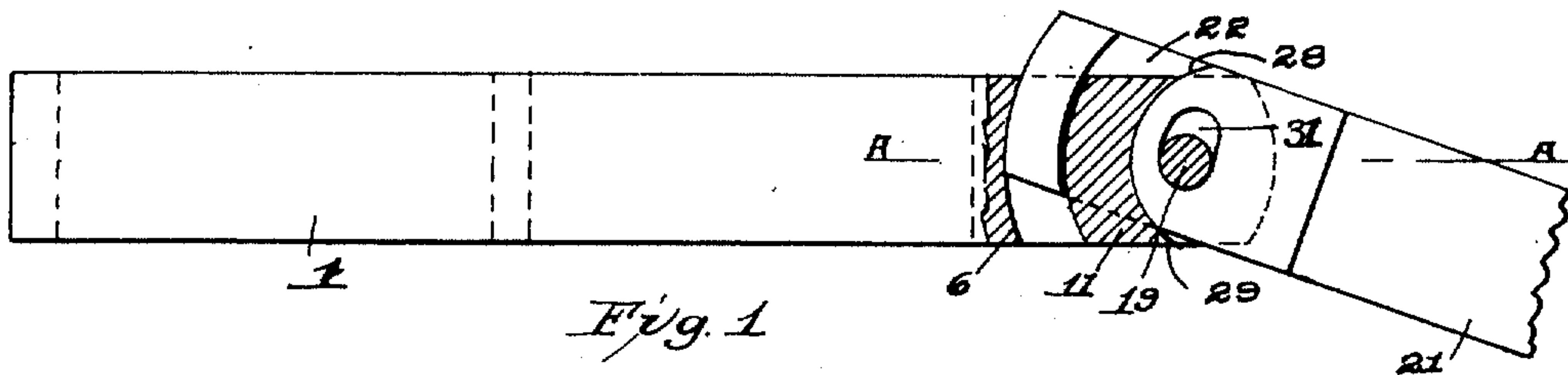


Fig. 1

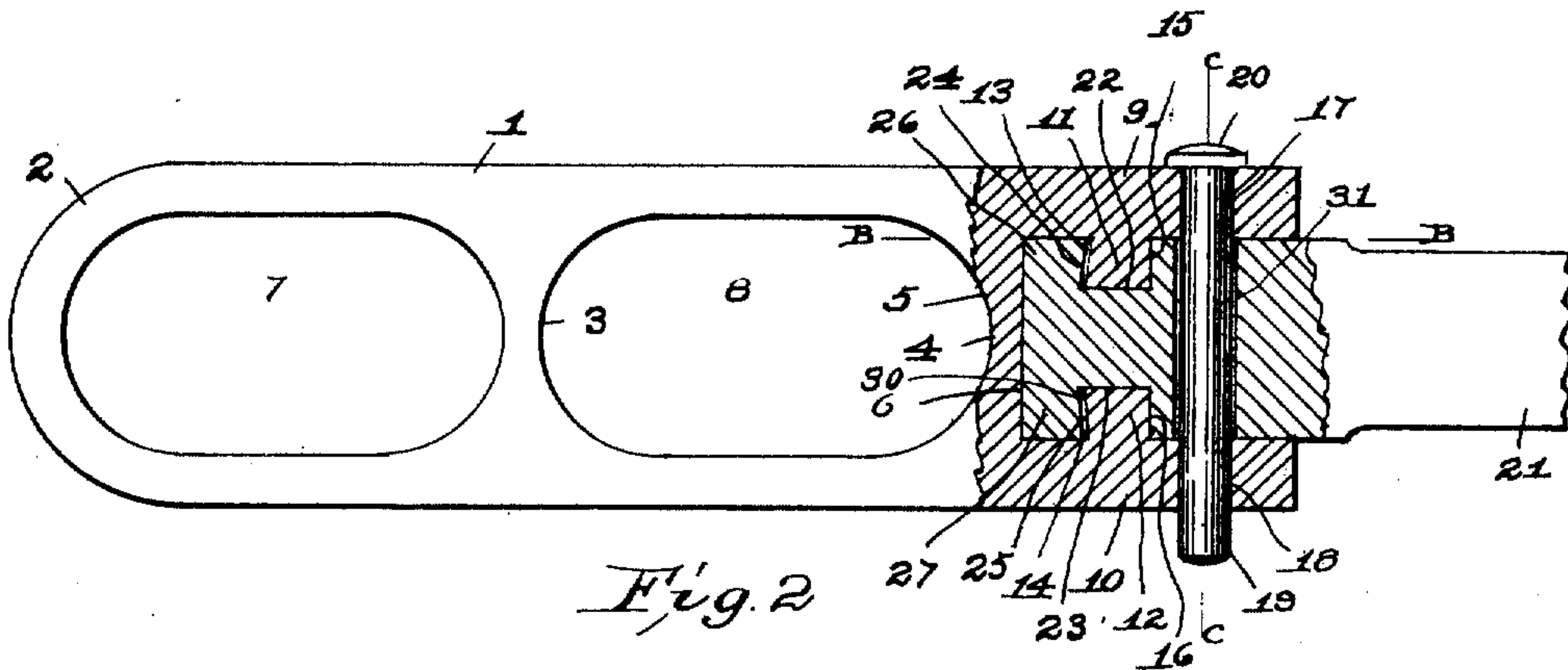


Fig. 2

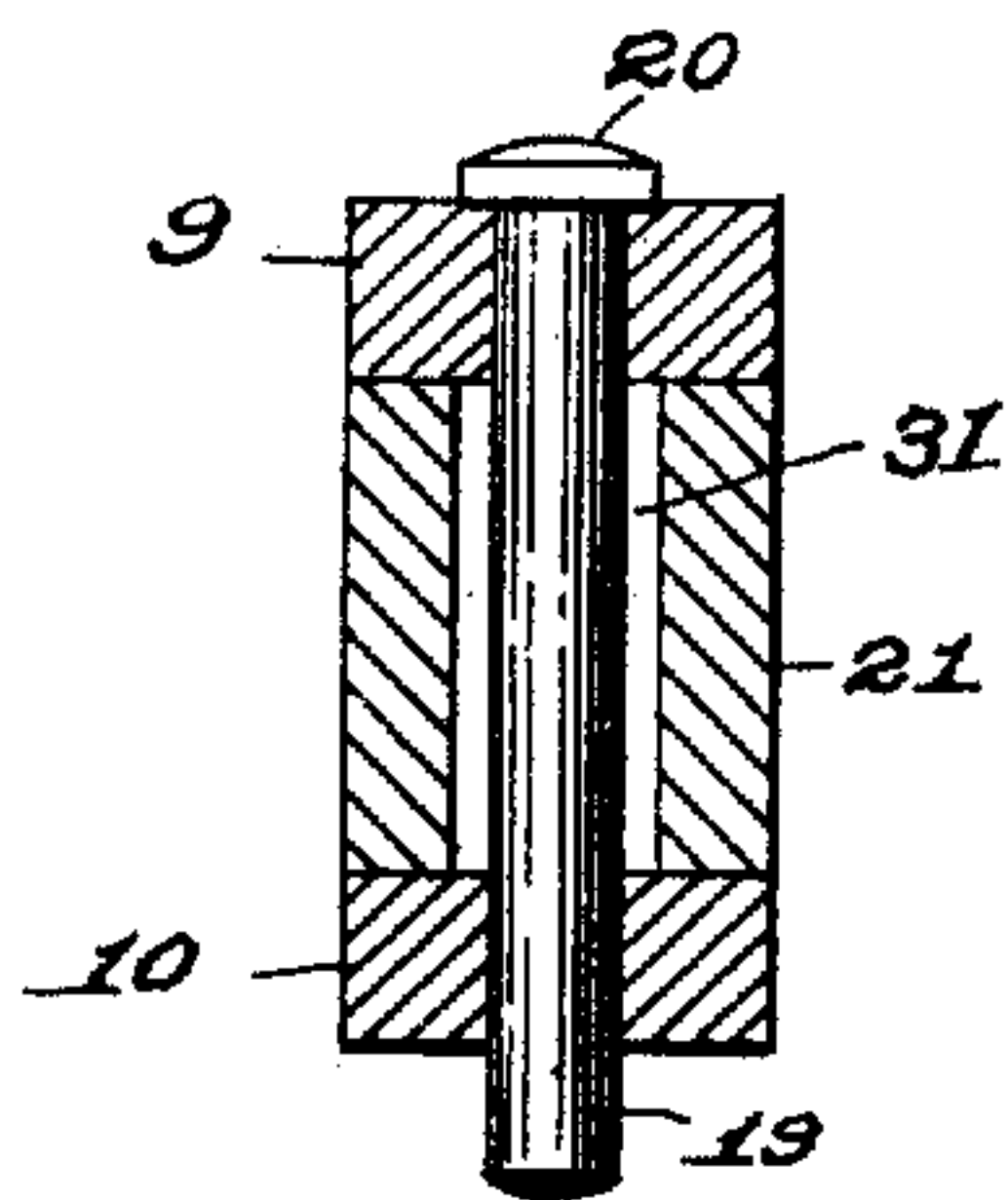


Fig. 3

WITNESSES:

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# UNITED STATES PATENT OFFICE.

JAMES TIMMS, OF COLUMBUS, OHIO.

## DRAFT-RIGGING.

990,684.

Specification of Letters Patent.

Patented Apr. 25, 1911.

Application filed August 26, 1909. Serial No. 514,669.

*To all whom it may concern:*

Be it known that I, JAMES TIMMS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Draft-Rigging, of which the following is a specification.

My invention relates to improvements in draft rigging and consists essentially in an improved device or attachment for car couplings, by which the draw-bar is attached to the yoke.

The object is to form a very compact structure and one possessing great strength, and at the same time permitting a lateral rotary motion of the draw-bar through a limited extent so that it may be adapted to curves in the track and thereby all twisting stresses set up in the draft rigging in the usual construction thereof when switching or rounding a curve will be obviated. In order to give the structure the necessary compactness, the pin uniting the draw-bar and the yoke is placed within the center of curvature of the curved shoulders and lugs provided as hereinafter set forth; to permit of a rotary movement of the draw-bar, the pin opening through the draw-bar is transversely slotted as will be hereinafter more fully set forth.

By the use of the construction herein shown and described, I accomplish a saving of material.

In the drawings which accompany this specification and are made a part thereof, Figure 1 is a top view of the yoke and draw-bar with the upper jaw of the draw-bar broken away along the line B—B of Fig. 2, to disclose the connecting means, the draw-bar being rotated laterally in engaged position; Fig. 2 is a side view of the structure shown in Fig. 1, with the part broken away to disclose the connections, along the line A—A of Fig. 1; Fig. 3 is a vertical transverse section along the line C—C of Fig. 2, the pin being in full line.

Referring to the drawings, 1 designates a yoke having the curved end 2, the transverse wall 3 concave on both of its faces, and the transverse wall 4 concave on the face 5, and transversely concave on the face 6. The springs with their follower plates are adapted to be placed in the openings 7 and 8 in the usual way and are not therefore shown. The yoke 1 is provided with the jaws 9 and 10 having the oppositely disposed

transversely curved lugs 11 and 12 formed thereon undercut on their faces 13 and 14. The faces 13 and 14 are seen to be convex, while the faces 15 and 16 are seen to be concave. The opening 17 is formed through the upper jaw 9 and the opening 18 is formed through the lower jaw 10, said openings being preferably circular, and of such diameter as to receive snugly the pin 19, which is provided with the head 20. The draw-bar 21 is shown broken away, the end thereof connecting with the yoke being the one portion which is of importance here; the draw-bar has formed thereon the transverse grooves 22, 23, which are curved as seen, and are bounded at one side by the transversely curved undercut walls 24, 25 of the shoulders 26, 27 formed at the end of the draw-bar 21; the end of the draw-bar 21 is also transversely curved to fit snugly into the concave face 6 of the transverse wall 4. The other walls 28, 29 of the grooves 22 and 23 are transversely curved to fit the concave faces 15, 16 of the lugs 11, 12.

The construction just described permits rotary movement of the draw-bar 21 on the center of curvature of the transversely curved walls just described; a slight degree of play is provided for as shown by the space between the undercut walls when the draw-bar is in its innermost position, for the purpose of permitting the end of the draw-bar under the influence of buffing stresses to contact with the wall 4, whereby the yoke takes up the greater part of such stresses. It will be understood that the pulling stresses are sustained by the lugs 11, 12, and the pin is so disposed through the openings therefor that none of the buffing or pulling stresses falls upon it, and thereby all tendency to shear is obviated.

If no pin were provided the draw-bar would have a rotary movement of great latitude, and if the pin were at the center of curvature of the curved faces above described, the rotary movement of the draw-bar would in no wise be impeded; but to place the pin at the center of curvature would require longer jaws 9, 10, thereby demanding a greater quantity of material. To obviate these features of construction which are found to be very objectionable, I provide a transversely slotted opening 31 through the draw-bar 21, which will permit a limited, but sufficient, rotary movement of the draw-bar as may be required by the conditions of



operation, as appears clearly in Fig. 1; when the draw-bar is rotated, one or the other of the walls of the slotted opening 31 is brought into engagement with the pin 19, which terminates movement in that direction, and without illustration it will be readily seen that the draw-bar 21 may be rotated in the opposite direction from that shown in Fig. 1 through an equal angle. The opening 31 is seen to be transversely slotted and also provided with a greater diameter longitudinally than that of the pin 19, so that the pulling stress may be received by the lugs 11, 12, and the buffing stress may be taken by the transverse wall 4, without tending in any manner to shear the pin.

The function of the pin is to secure together the jaws 9 and 10 and prevent their spreading, and the chief point herein emphasized is that the pin may be used for this purpose and placed within the center of curvature of the curved faces of the engaging shoulders and lugs and yet permit the draw-bar to have a sufficient rotary movement to meet the conditions of operation, and as I have above shown, the pin can be placed off center only by transversely slotting the opening therefor through the draw-bar.

It will be understood that the effect of undercutting as above described is to tend to draw the jaws 9 and 10 together and prevent spreading thereof under the conditions of operation.

The slotted opening 31 may be transversely curved, and I have shown in Fig. 1 such formation to a slight degree.

Modifications of the construction shown may be made and I desire to be limited only by the scope of the appended claims.

What I claim is:

1. An attachment for couplings comprising a yoke, jaws thereon, a transversely concave wall connecting said jaws, oppositely disposed transversely curved lugs formed on the inner faces of said jaws, said jaws having a circular opening lying within the center of curvature of said wall and lugs, a draw-bar having its end convex to fit the curve of said wall and having grooves formed on its opposite faces to receive said lugs, and having an elongated opening there-

through to register with said circular opening, a pin for insertion through said openings to connect said draw-bar and yoke whereby a limited rotary movement for said draw-bar is rendered possible.

2. An attachment for couplings comprising a yoke having jaws thereon, oppositely disposed transversely curved lugs on the inner faces of said jaws undercut on their convex faces, a draw-bar having grooves formed on its opposite faces to receive said lugs and having the concave walls of said grooves undercut to receive the undercut walls of said lugs to exercise a converging influence on said jaws, said draw-bar having an elongated opening therethrough forward of said grooves and said jaws having a circular opening therethrough to register with said elongated opening, and a pin for insertion through said openings whereby said draw-bar may have a limited rotary movement and the use of a pivot pin is rendered unnecessary.

3. An attachment for couplings comprising a yoke, jaws thereon, a transversely concaved wall connecting said jaws, oppositely-disposed transversely curved lugs formed on the inner faces of said jaws, a draw-bar having its end convexed to fit the curve of said wall and having grooves formed on its opposite faces to receive said lugs, and means for limiting the rotary movement of said draw-bar.

4. An attachment for couplings comprising a yoke, jaws thereon, a transversely concaved wall connecting said jaws, oppositely-disposed transversely curved lugs formed on the inner faces of said jaws, a draw-bar having its end convexed to fit the curve of said wall and having grooves formed on its opposite faces to receive said lugs, said lugs and grooves forming the pivotal connection between said yoke and draw-bar, and means eccentric to the concavity of said wall for limiting the rotary movement of said draw-bar.

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

JAMES TIMMS.

Witnesses:

A. RAGER,

HORACE S. KERR.