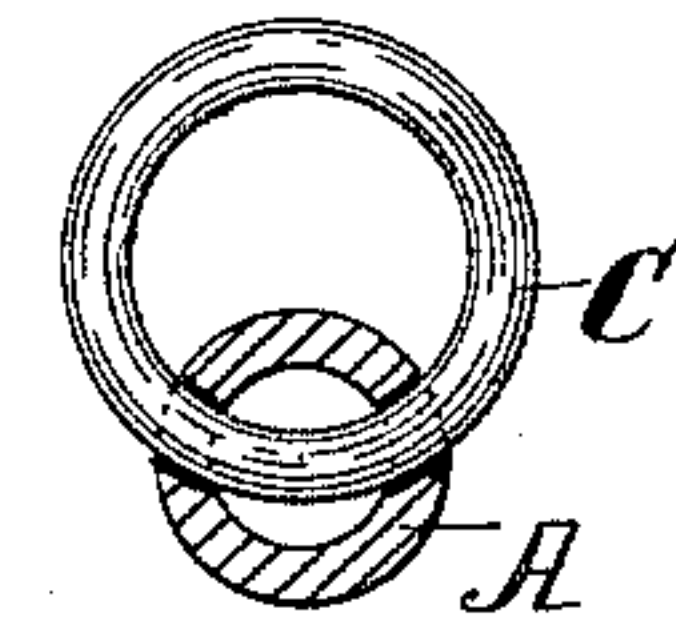
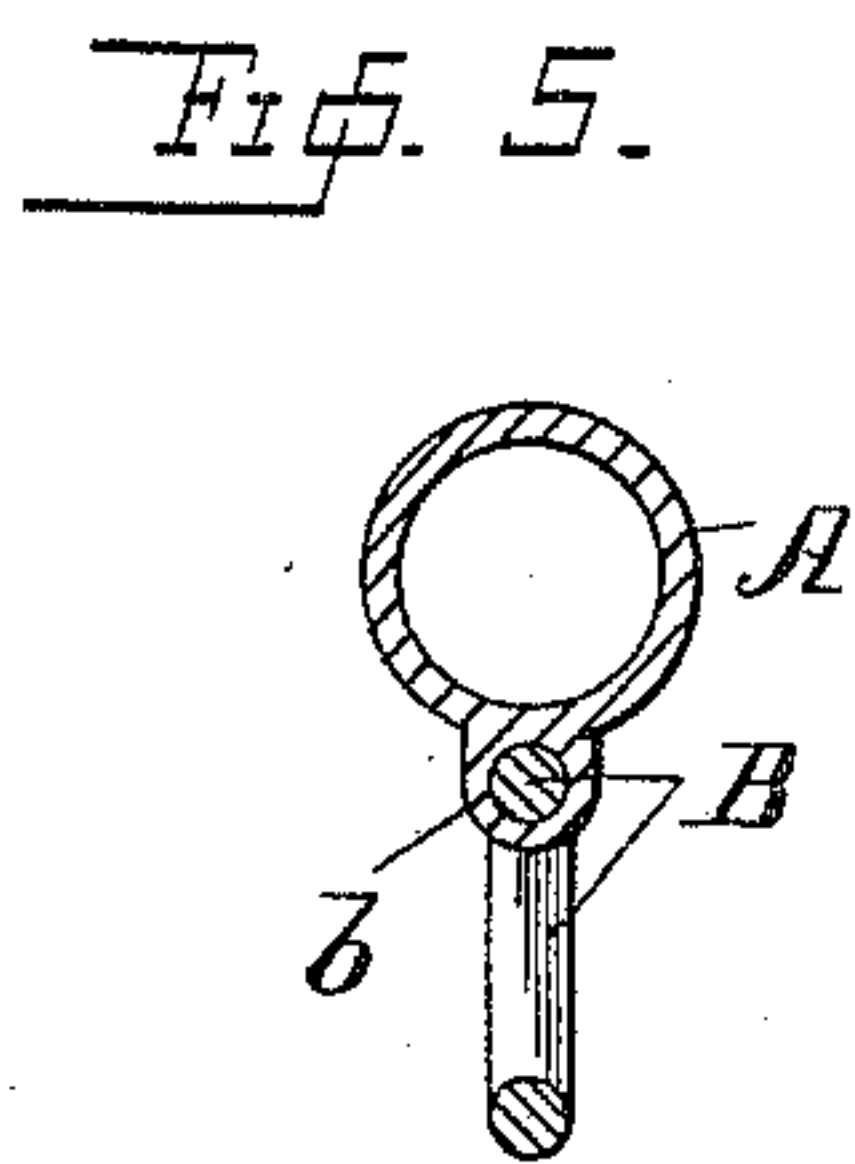
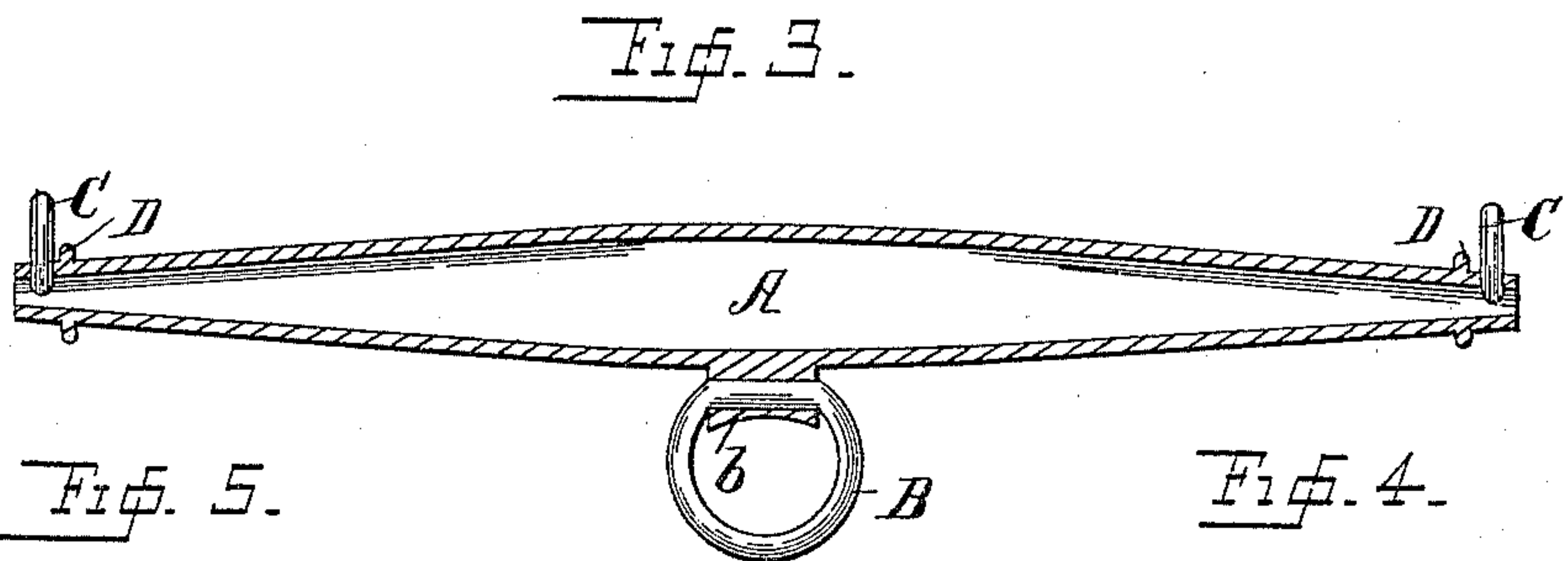
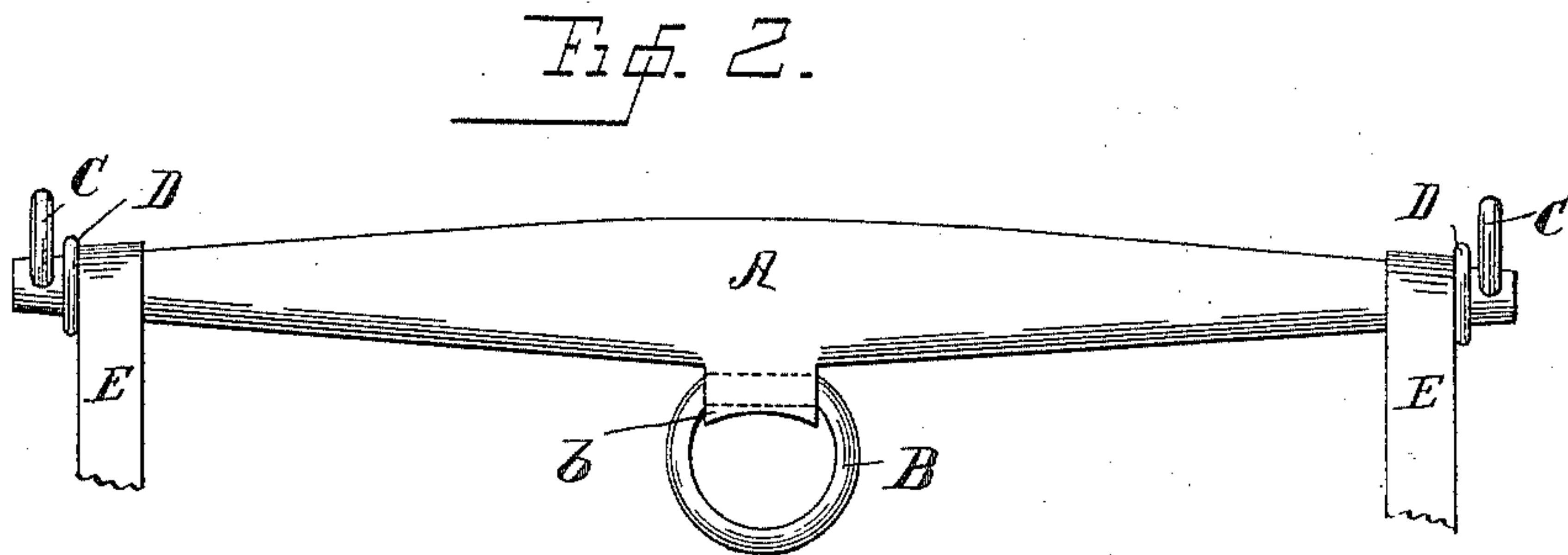
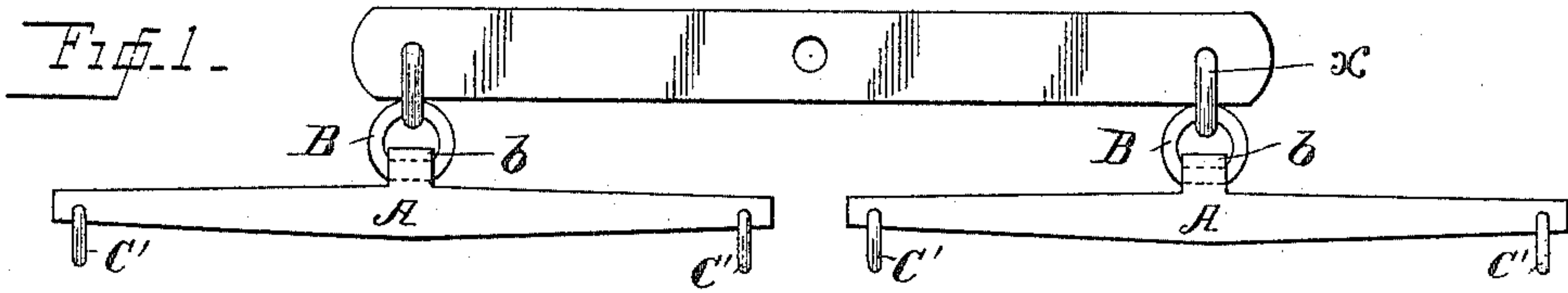


(No Model.)

N. P. STEFFENSON.
WHIFFLETREE.

No. 446,615.

Patented Feb. 17, 1891.



Witnesses

W. A. Courtland
G. B. Grigg.

Inventor:-

Nels P. Steffenson
by Ross & Head
attys

UNITED STATES PATENT OFFICE.

NELS P. STEFFENSON, OF WINCHESTER, WISCONSIN.

WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 446,615, dated February 17, 1891.

Application filed November 14, 1890. Serial No. 371,409. (No model.)

To all whom it may concern:

Be it known that I, NELS P. STEFFENSON, a citizen of the United States, residing at Winchester, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Whiffletrees and Neck-Yokes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in metal neck-yokes and an adaptation of the same principles and construction to whiffletrees.

The objects of my invention are to simplify and cheapen the manufacture and render the article more durable.

In the accompanying drawings, Figure 1 is a plan view of the whiffletree, and Fig. 2 a plan view of the neck-yoke. Fig. 3 is a longitudinal section of the neck-yoke, and Figs. 4 and 5 cross-sectional views thereof.

Similar letters refer to similar parts throughout the several views.

A is a hollow metallic bar with the attaching-ring B passing longitudinally through an opening in the projection *b* integral with the bar A. The ring B in whiffletrees attaches to the clevis *x* and in a neck-yoke to the tongue of the wagon.

In neck-yokes, Fig. 2, the shoulders D D are integral with the bar A and serve to retain the martingale-straps E E. The rings C C, which receive the collar-straps, are solid welded rings passing through openings in the bar at each end, as shown by the cross-sectional view, Fig. 4, the openings being large enough to allow the rings to freely turn. In the same manner I attach the whiffletree hooks or snaps *c' c' c' c'*, Fig. 1.

The ring B is a solid welded ring and passes loosely through the opening in the projection *b*, so as to turn freely.

I am aware that hollow cast-metal neck-yokes have heretofore been used, but from the manner of attaching the ring B have been found unsatisfactory—that is to say,

where the ring has been attached by means of a swivel-eye the manufacture thereof has been very expensive and the article not durable, as the ball inside wearing against the sides of the opening has soon rendered the attachment very loose and materially lessened the strength of the bar, and where the ring B has been attached by means of a ferrule or collar surrounding the bar the article has not been durable on account of the tendency of the ferrule at any time to become loose and slip therefrom.

In my invention there is no possibility of the ring becoming separated from the bar, as I provide a solid ring passing through the projection *b*, which is integral with the socket and may be extended so as to be very strong and to afford material strength to the bar, and my attachment strengthens the bar instead of weakening it, as where the swivel-eye attachment is used.

In the manufacture of my invention it is not necessary to cast the tubular bar A, as has heretofore been done. It may be rolled after the manner of making pipe, and I thereby secure a stronger article than a cast-iron one. Therefore

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a neck-yoke or whiffletree, the combination of a hollow metallic bar having a central projection integral therewith, provided with an eye extending lengthwise of the bar, through which is passed a ring, substantially as shown.

2. In a neck-yoke or whiffletree, the combination of a hollow metallic bar with a central ring passing through an eye in a projection integral with the bar.

3. A neck-yoke or whiffletree consisting of a tubular rolled metallic bar, a ring passing through an eye in a central projection integral with the bar, and rings or hooks at each end of the bar, substantially as shown, for the purposes specified.

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

NELS P. STEFFENSON.

Witnesses:

ALEX. AULT,

EDWIN CLIFFORD.