No. 622,979. Patented Apr. 11, 1899.

E. ROENIUS.

NECK YOKE COUPLING.

(Application filed Apr. 13, 1898.)

(No Model.)

Fig - 1 -

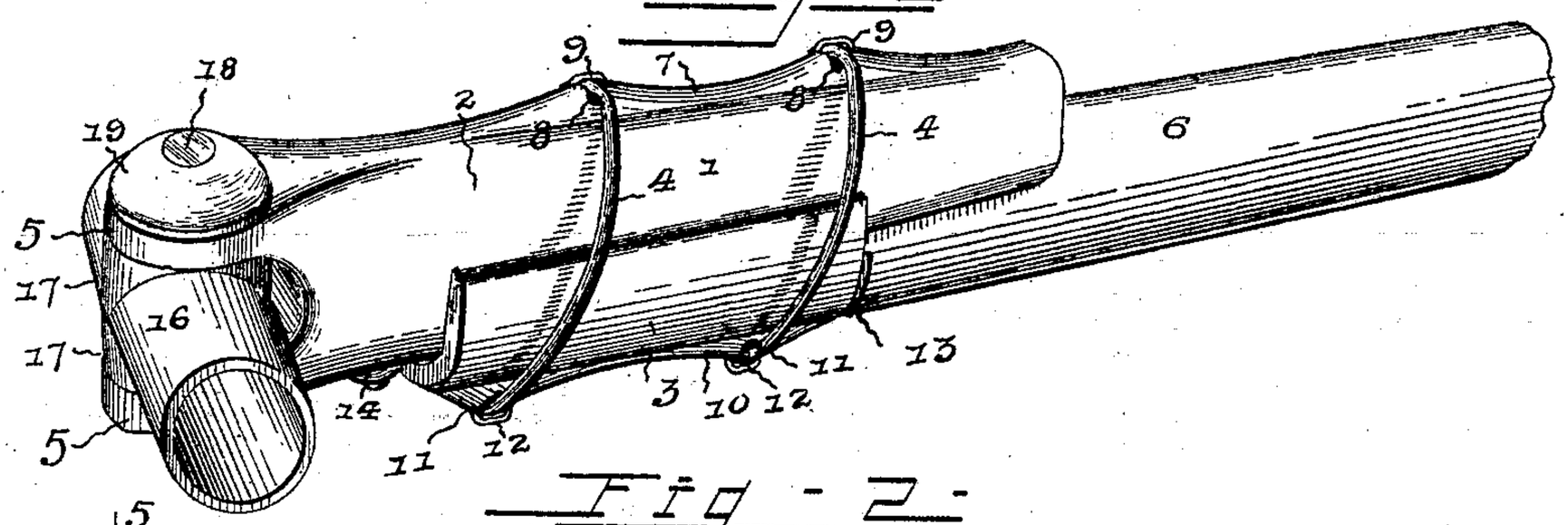


Fig - 2 -

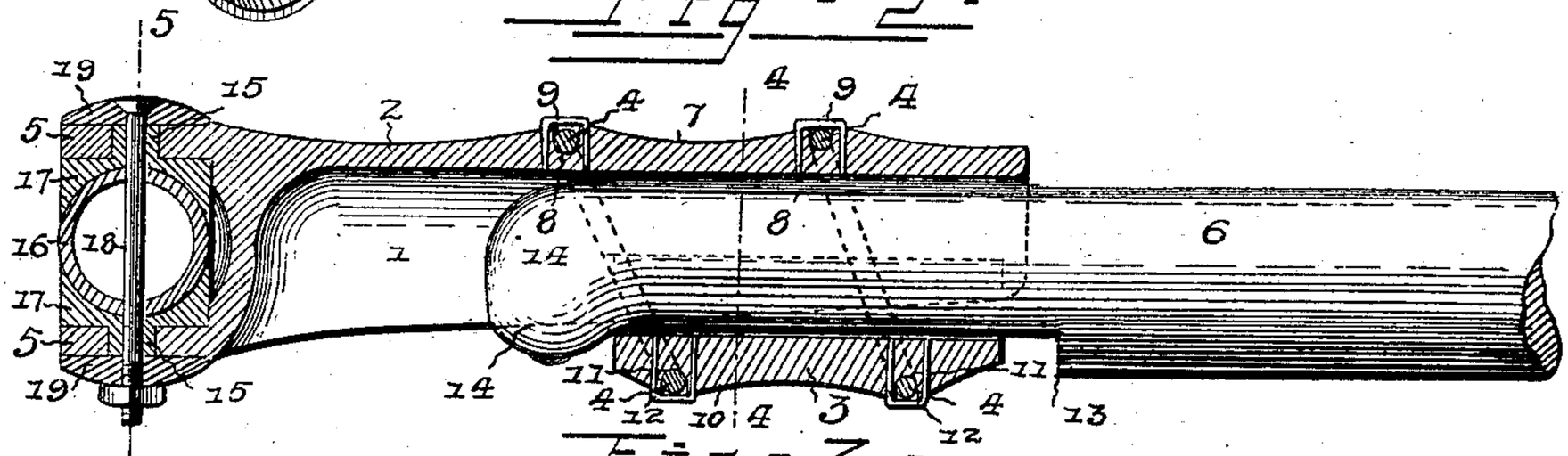


Fig - 3 -

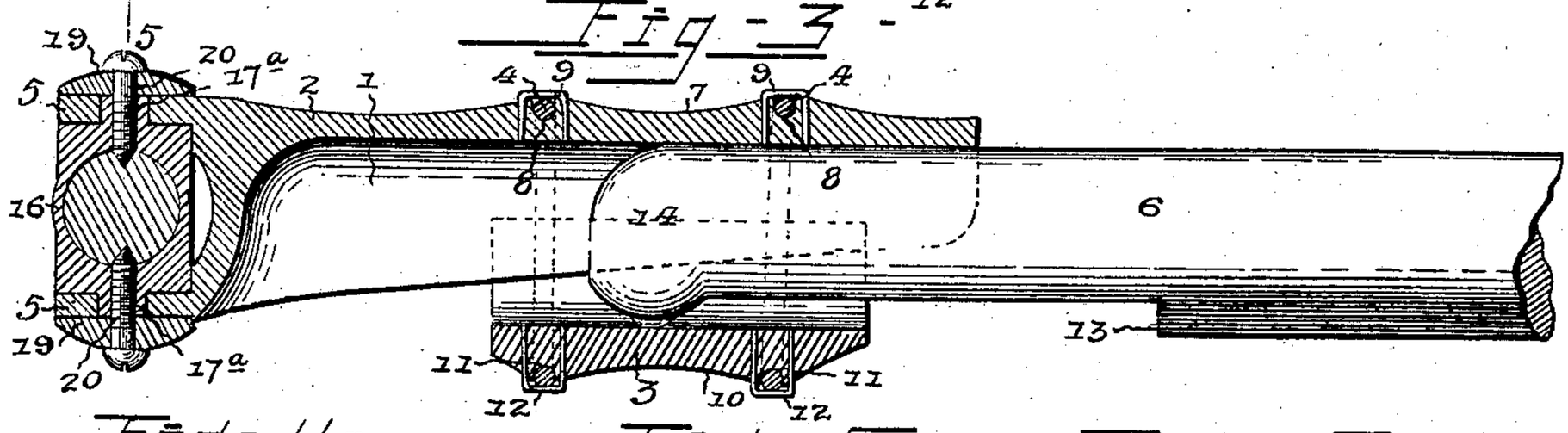


Fig - 4 -

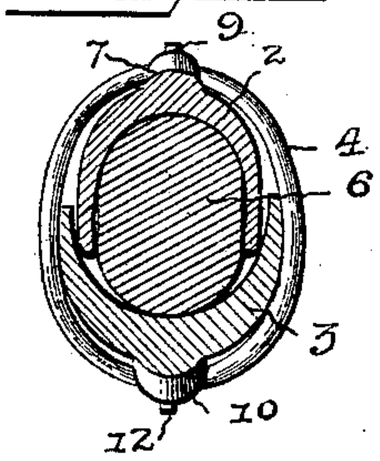


Fig - 5 -

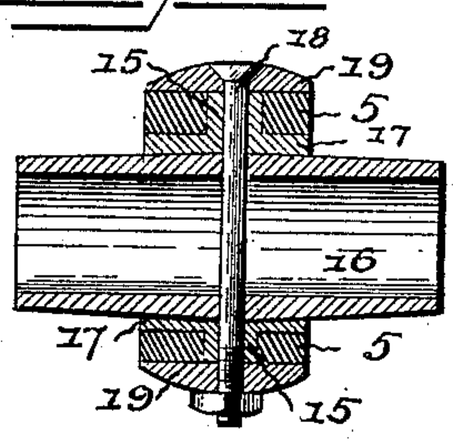
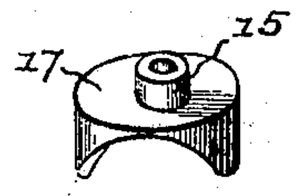


Fig - 6 -



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By his Attorneys.
Cushman & Co.

UNITED STATES PATENT OFFICE.

EDMUND ROENIUS, OF GRAND RAPIDS, WISCONSIN.

NECK-YOKE COUPLING.

SPECIFICATION forming part of Letters Patent No. 622,979, dated April 11, 1899.

Application filed April 18, 1898. Serial No. 678,038. (No model.)

To all whom it may concern:

Be it known that I, EDMUND ROENIUS, a citizen of the United States, residing at Grand Rapids, in the county of Wood and State of Wisconsin, have invented a new and useful Neck-Yoke Coupling, of which the following is a specification.

This invention relates to improvements in neck-yoke couplings.

The object of the present invention is to improve the construction of neck-yoke centers or couplings and to provide a simple, inexpensive, and efficient device adapted when applied to a tongue to arrange the neck-yoke in advance of the same to prevent the tongue from striking the shoulders of the draft-animals and capable of securely mounting a neck-yoke on a pole or tongue and of preventing the same from allowing the tongue or pole to fall should a trace break or become disconnected from a whiffletree.

A further object of the invention is to provide for neck-yoke couplings a clamp adapted to be operated to engage a pole or tongue both by inward and outward pressure, so that the pole or tongue will be firmly held by the backward strain on the neck-yoke when the parts are in their proper positions and will be similarly clamped should there be any outward or forward strain on the neck-yoke.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

Figure 1 is a perspective view of a neck-yoke coupling constructed in accordance with this invention, illustrating the position of the parts when there is a backward strain on the neck-yoke. Fig. 2 is a longitudinal sectional view illustrating the position of the parts when there is a forward strain on the neck-yoke. Fig. 3 is a similar view illustrating the manner of removing the tongue or pole and showing the journals or pivots of the neck-yoke ferrule formed integral with the same. Fig. 4 is a transverse sectional view on line 4 4 of Fig. 2. Fig. 5 is a similar view on the line 5 5 of Fig. 2. Fig. 6 is a detail perspective view of one of the detachable lugs of the ferrule.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a neck-yoke coupling composed of a substantially semicylindrical or trough-shaped upper section 2, a lower similarly-shaped section 3, and a pair of links or rings 4, encircling the sections and hinged to the same. The upper trough-shaped section 2, which has its ends bifurcated to form arms 5, saddles the front end of the pole or tongue 6 and is provided at its upper face with a longitudinal rib 7, which is provided with notches 8 to receive the links. The links are secured in the notches by means of staples or yokes 9, and the links or rings 4 are adapted to swing to an inclined position at either side of a vertical position, as illustrated in Figs. 2 and 3 of the accompanying drawings, whereby the upper and lower sections 2 and 3 of the clamp are drawn together and caused to engage the pole or tongue firmly.

The lower section 3 of the clamp is shorter than the upper section, and its sides, which are arranged on the outer faces of the sides of the same, overlap them, as clearly shown in Fig. 4 of the accompanying drawings. This lower supporting-section is provided at its lower face with an exterior longitudinal rib 10, which is provided with notches 11, similar to those of the upper section, and the supporting rings or links 4 are secured in the notches 11 by yokes or staples 12.

When the rings 4 are arranged in a vertical position, as illustrated in Fig. 3 of the accompanying drawings, there is sufficient space to insert the tongue or pole 6 between the sections, and said pole or tongue is provided at its lower face with a depending shoulder 13, arranged to engage the lower section 3, whereby the same is caused to move forward, so that the rings 4 will assume the position shown in Fig. 2. The backward strain on the neck-yoke holds the parts in this position and causes the sections to clamp the tongue firmly.

The front end 14 of the tongue is slightly hook-shaped, as shown, to form a depending portion, which, as illustrated in Fig. 3 of the accompanying drawings, is adapted to engage the front end of the lower section 3 to cause the rings to change their position and produce a positive clamping action on the

tongue should there be a forward strain on the neck-yoke incident to the breakage of a trace or the separation of the same from the singletree.

The front end of the upper section 2 is closed and abuts against the front end of the tongue, and the arms 5 are adapted to support a neck-yoke in advance of the tongue, so that the latter will not be liable to strike the shoulders of horses, as is the case when it extends in advance of the neck-yoke. The said arms 5, which are arranged at the top and bottom of the section 2, are provided with openings to receive upper and lower journals 15 of a ferrule 16, which is designed to be arranged on the neck-yoke in the usual manner. As illustrated in Figs. 2 and 5, the journals 15 are formed integral with lugs 17, which are constructed separate from the ferrule; but, as illustrated in Fig. 3 of the drawings, the ferrule may be provided with integral journals 17[a].

The lugs 17 have concave inner faces to fit the ferrule and flat outer faces to conform to the configuration of the inner faces of the arms 5, and the parts are connected together by a bolt or rivet 18, which passes centrally through the journals extending longitudinally thereof. The bolt or rivet also passes through the ferrule and neck-yoke and retains the latter in the former. The ends of the bolt or rivet pass through perforations of disks or washers 19, arranged on the outer faces of the arms 5 and having convex outer faces.

When the journals or pivots are formed integral with the ferrule, the parts are preferably connected by upper and lower screws 20, which extend into the neck-yoke, as illustrated in Fig. 3 of the accompanying drawings, to hold the ferrule against longitudinal movement.

The invention has the following advantages: The neck-yoke coupling, which is simple and comparatively inexpensive in construction, forms a clamp for engaging a pole or tongue and is adapted to support a neck-yoke in advance of the tongue or pole, so that the same will not strike the shoulders of animals. The clamp is automatic in its operation, and the upper and lower sections are adapted to clamp a pole or tongue when there is either a backward or forward strain on the neck-yoke.

It will be readily understood that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is—

1. A device of the class described comprising upper and lower clamping-sections sliding on each other and detachably engaging the upper and lower faces of a pole or tongue, oscillating connections between the upper and lower sections, adapted to be arranged at right angles to the pole or tongue to permit the same to be removed or introduced into the device and capable of swinging forward and rearward from such position to cause the sections to clamp the pole or tongue, and means for mounting the neck-yoke on one of the sections, substantially as described.

2. A device of the class described comprising the upper and lower sections sliding on each other and arranged to clamp a pole or tongue, rings encircling the sections and connecting the same, and means for mounting a neck-yoke on one of the sections, substantially as described.

3. A device of the class described, comprising an upper section substantially trough-shaped and conforming to the configuration of a tongue or pole, said upper section being closed at its front end and bifurcated to form arms, a lower trough-shaped section adapted to engage the lower face of a tongue or pole, rings encircling the sections and forming oscillating connections, and means for journaling a neck-yoke on the arms of the upper section, substantially as described.

4. A device of the class described, comprising upper and lower trough-shaped sections adapted to clamp a pole, oscillating connections between the sections, arms arranged at the front end of the upper section, a ferrule provided with lugs and having journals arranged in openings of the arms, and a fastening device for connecting the parts to the arms and for engaging a neck-yoke, substantially as described.

5. In a device of the class described, the combination of a pole or tongue provided at its lower face with a shoulder and having a depending portion at its front end, and a neck-yoke coupling composed of upper and lower sections, connected by links and adapted to engage the pole or tongue, the lower section being arranged between the shoulder and the front end of the pole or tongue, whereby the sections are caused to move longitudinally of each other when the device is subjected to strain, substantially as described.

6. A device of the class described comprising two sections sliding on each other and arranged to clamp a pole, and shifting connections between the sections, whereby the said sections are adapted to engage and release a pole, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDMUND ROENIUS.

Witnesses:
HERMAN WIPPERMAN,
CAROLINE KUNTZ.