No. 842,791. PATENTED JAN. 29, 1907.

D. N. LUSE.

NECK YOKE ATTACHMENT.

APPLICATION FILED JAN. 18, 1905. RENEWED NOV. 26, 1906.

Fig. 1

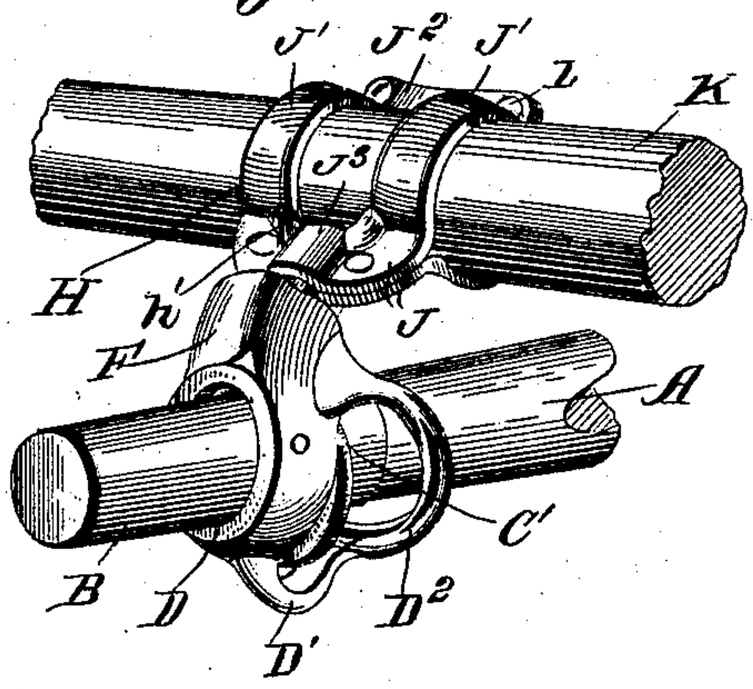

Fig. 9

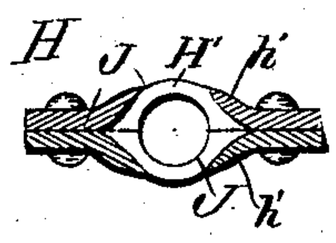

Fig. 2

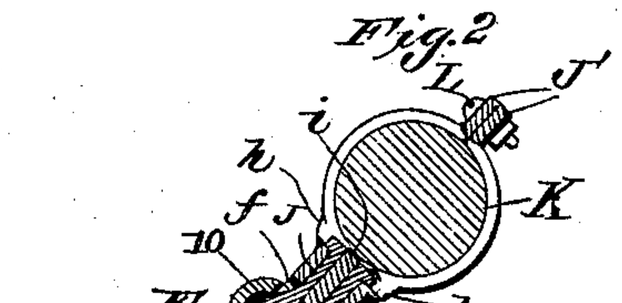

Fig. 10

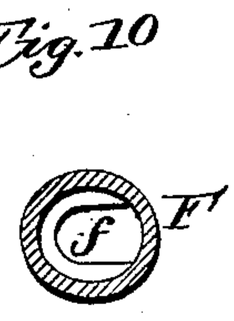

Fig. 3

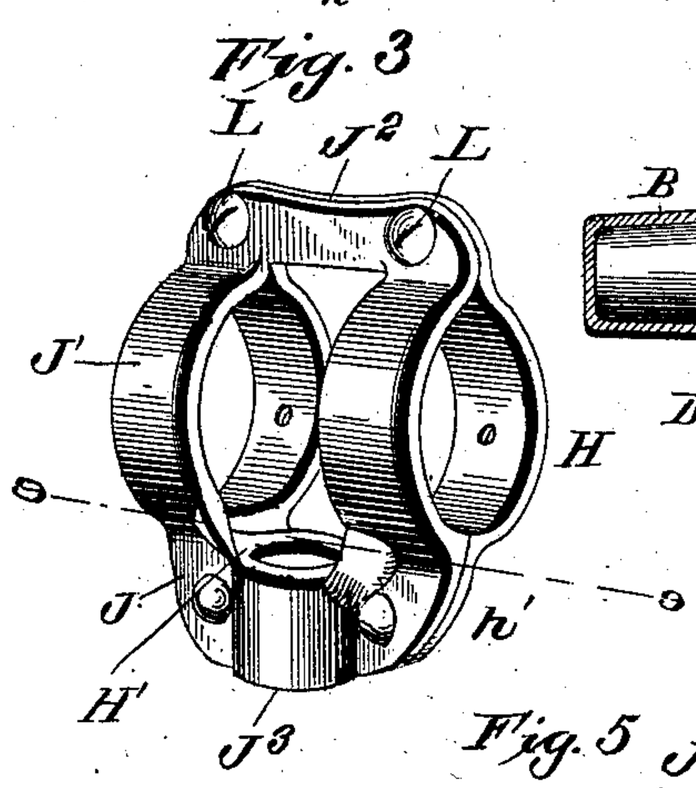

Fig. 4

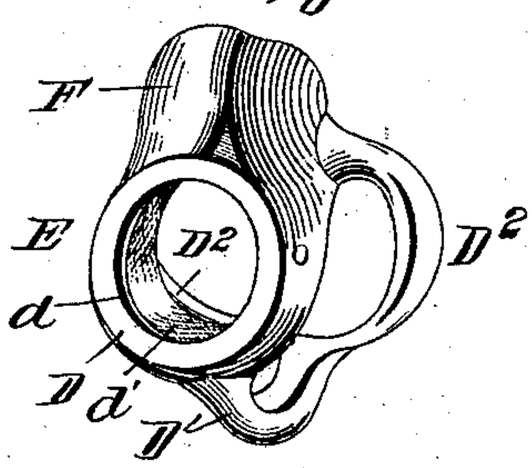

Fig. 5

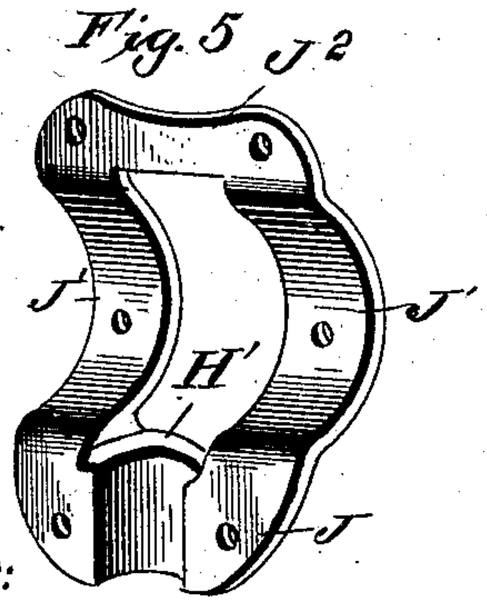

Fig. 6

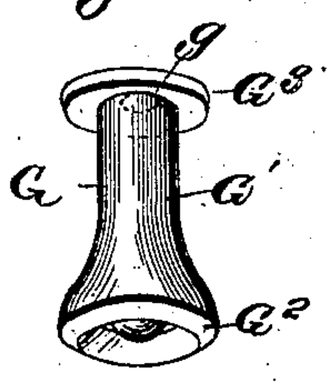

Fig. 8

Fig. 7

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NECK-YOKE ATTACHMENT.

No. 842,791. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed January 18, 1905. Renewed November 26, 1906. Serial No. 345,178.

To all whom it may concern:

Be it known that I, DAVID N. LUSE, a citizen of the United States, and a resident of Carroll, in the county of Carroll and State of Iowa, have made certain new and useful Improvements in Neck-Yoke Attachments, of which the following is a specification.

My invention is an improvement in neck-yoke attachments, and consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my invention as in use. Fig. 2 is a sectional elevation thereof. Fig. 3 is a detail perspective view of the yoke section or clamp. Fig. 4 is a detail perspective view of the pole-section. Fig. 5 is a detail perspective view of one of the halves of the clamp-section shown in Fig. 3. Fig. 6 is a detail view of the swivel-bolt. Fig. 7 is a detail perspective view of the brace-bolt for said swivel-bolt. Fig. 8 shows a somewhat different construction of swivel-bolt. Fig. 9 is a detail cross-section on about line 9 9 of Fig. 3; and Fig. 10 is a detail cross-section on about line 10 10 of Fig. 2, as will be described.

On the front end of the pole A is secured the pole-tip B, commonly used on buggies and carriages and which is provided near its rear end with the eccentric flange C, extending beneath the tip B, being of its greatest width directly below said tip and tapering toward its opposite ends at C′, where it merges in the surface of the pole-tip. This flange forms a bearing for engagement by the safety-stirrup D^2 on the lower side of the band D of the pole-section E, as shown in Fig. 2. This band D encircles the pole-tip, has at its front edge an inwardly-projecting flange *d*, which aids in retaining the leather lining *d*′, and at its lower side the band D has the brace-loop D′, projecting downwardly and rearwardly and overlapping the flange C in the position of parts shown in Fig. 2 and connected with the stirrup D^2 at the middle, as shown in Figs. 1 and 4 of the drawings, and operating as a brace for said safety-stirrup D^2, and so increasing the security of the device.

By this construction when the parts are in position for use, as shown in Figs. 1 and 2, the safety-stirrup being in rear of and engaging with the flange C will prevent the pole-section E from becoming displaced and will hold the same securely on the pole-tip without interfering with any of the desired movements of the pole-section E, the stirrup D^2 forming a safety device which catches behind the flange C on the pole-tip and is securely braced by the loop D′. It will also be seen that the yoke must be turned one-half round in order to be placed on and removed from the tip.

Many accidents are caused by poles dropping, and thousands are annually killed or crippled by the use of unsafe neck-yoke centers, and the safety feature of my device is therefore of great importance.

On its upper side the pole-section E is provided with a head F, in which journals the lower end of the swivel-bolt G, the body G′ of said bolt projecting through an opening *f*, which latter opening is elongated from front to rear, as shown in Fig. 10, to permit the forward and backward motions of the yoke necessary in the operation of same. The bolt G is provided at its lower end with the head G^2, which turns within the head F of the pole-section, and said bolt has at its upper end the non-circular head G^3, which fits in a non-circular opening H′ in the pole-section H, and so holds the bolt from any turning within the socket of the yoke-section, thus preventing any wear upon the upper or small end of the swivel-bolt, as will be understood from the drawings. This swivel-bolt has a longitudinal opening or bore *g*, and through such opening I extend the bolt-brace I, having a head I′ at one end and riveted at *i* at its upper end. The purpose of this is to provide a swivel-bolt that will have a soft-metal rivet in the center, upon which soft-metal rivet there is neither wear nor friction of any kind; but in case of a flaw or defect of any kind in the outer hollow bolt, which latter may be of harder metal, the internal rivet will operate as a safeguard that could not be broken, but would have to be twisted off like a piece of soft wire even after the main part of the swivel-bolt had been broken.

The construction of the non-circular seat H′ for the smaller head G^3 of the swivel-bolt permits the clamp to be cast with thickened portions or braces at *h*′, as shown in Fig. 3 of the drawings.

The yoke-section is in the form of a clamp

and is composed of the two members J, having the semicircular side straps J′ connected at their upper ends by the cross-plates J^2 and at their lower ends by the bearings J^3, in which the upper end of the swivel-bolt is held when the sections are secured together, as shown in Figs. 1 and 3 of the drawings.

The clamps are so made as to permit adjustment of the yoke K, as it can be readily slipped upon the yoke and then pressed together and fastened by the bolts L, and should the wood shrink, as is often the case, the clamp can be subsequently tightened. Ordinarily I would make the clamps with a space of about one-half inch for adjustment.

In Fig. 8 I show a somewhat different construction of swivel-bolt and connection of same with the pole-section. In this construction the head of the rivet or swivel-bolt at M is round, and the swiveling of the yoke is at the upper end of the bolt instead of at its lower end, as in Figs. 1 and 2. This swivel-bolt M′ gradually enlarges toward its upper end and is made hollow, thus furnishing more strength to weight than if it were made solid. In this construction the soft-metal brace-bolt is omitted, and the rivet-bolt is made of such size and form as to secure the desired strength.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The improvement herein described comprising the pole-section having the band to encircle the pole-tip and provided at its lower side with the safety-stirrup adapted to engage in rear of a flange or projection of the pole-tip and provided with a loop connecting said stirrup with the body of the pole-section and forming a brace for the safety-stirrup, the said pole-section having at its upper side the projecting head provided with a bearing for the swivel-bolt and an opening elongated from front to rear for the passage of said bolt, the swivel-bolt having at its lower end a head or ball journaled and rocking in the head of the pole-section, the said bolt extending through the elongated opening in the head and being provided at its upper end with a non-circular head and having a longitudinal bore or opening and the brace-bolt within said opening, and the yoke-section having a clamp comprising two members provided at their lower ends with a bearing for the swivel-bolt and at the upper end of said bearing with a non-circular head for the upper head of the swivel-bolt, the clamping-sections having semicircular straps and devices for connecting the same and securing them upon the yoke, substantially as set forth.

2. The combination in a neck-yoke attachment with the pole-section and the yoke-section, of the swivel-bolt connecting the two sections and having an outer or main portion and a brace-bolt extending through the same, substantially as and for the purpose set forth.

3. In a neck-yoke attachment a swivel-bolt having a main or body portion provided with a longitudinal bore and a brace extending through said main portion and held at its opposite ends, substantially as set forth.

4. The combination of the pole-section, the yoke-section, and the swivel-bolt held to the yoke-section and turning in the pole-section and comprising the body or main portion and the brace-bolt extending longitudinally through the same, substantially as set forth.

5. The combination with the pole-section and the swivel-bolt journaling at its lower end therein, of the yoke-section having at its lower portion a bearing encircling the swivel-bolt and provided at its upper end with a non-circular seat, the swivel-bolt having at its upper end a non-circular head fitting in said seat, substantially as set forth.

6. In a neck-yoke attachment a pole-section provided with an outwardly and downwardly curving safety-stirrup connected at its ends with the body of the pole-section, and a brace-loop connecting said stirrup between its ends with the body of the pole-section, substantially as set forth.

7. In a neck-yoke attachment, a pole-section having a band to encircle the pole-tip, and having a brace-loop projecting downwardly and rearwardly from the lower side of said band together with side branches or safety-stirrups connecting said brace-loop with the upper portion of the band at the opposite sides of the latter, substantially as set forth.

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