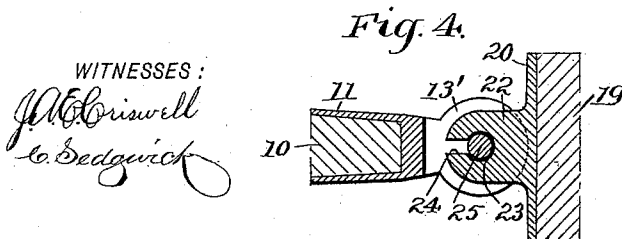
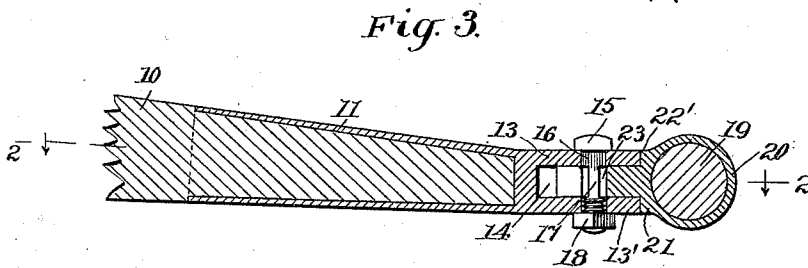
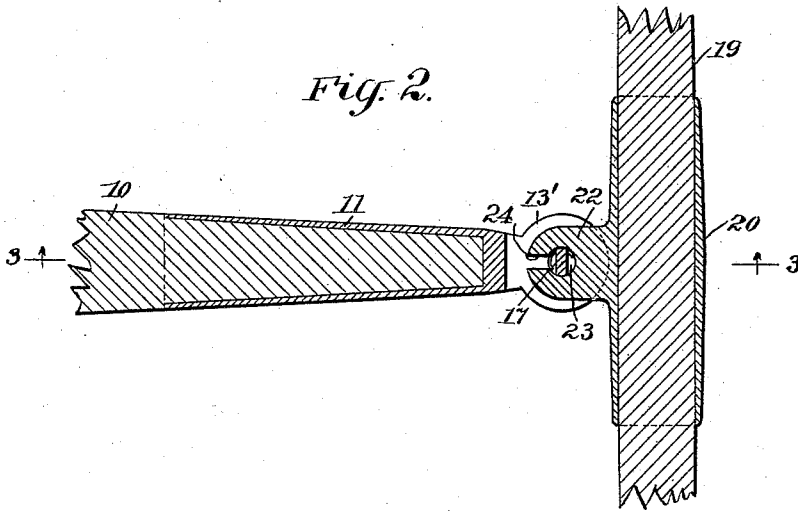
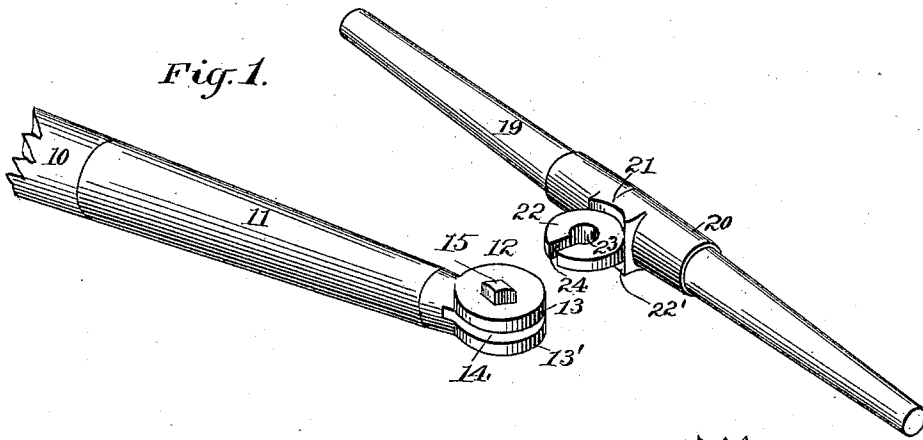


(No Model.)

J. S. BROWN
NECK YOKE.

No. 487,112.

Patented Nov. 29, 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES S. BROWN, OF EUREKA, CALIFORNIA.

NECK-YOKE.

SPECIFICATION forming part of Letters Patent No. 487,112, dated November 29, 1892.

Application filed June 30, 1892. Serial No. 438,492. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. BROWN, of Eureka, in the county of Humboldt and State of California, have invented a new and useful Improvement in Neck-Yoke and Pole Connections, of which the following is a full, clear, and exact description.

This invention relates to the neck-yokes and poles or tongues of wagons and other draft-vehicles; and it consists in a special construction and combination with the same of certain pivotal connections uniting the neck-yoke with the pole, substantially as hereinafter described, and more particularly pointed out in the claim, and whereby many advantages are secured over the ordinary neck-yoke and its connection with the pole, as hereinafter explained.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the figures.

Figure 1 represents a view in perspective of the neck-yoke and pole in part detached with the connections applied thereto in accordance with my invention. Fig. 2 is a sectional plan view upon the line 2 2 in Fig. 3 of the neck-yoke and pole united by the connections with which they are fitted. Fig. 3 is a longitudinal section upon the line 3 3 in Fig. 2; and Fig. 4 is a sectional plan view in part, showing a similar construction to that exhibited in Fig. 3, but representing a modified construction of the pivotal bolt uniting the neck-yoke with the pole.

In carrying out my invention I usually make the wagon-pole 10 about ten inches (more or less) shorter than the ordinary pole or tongue, and on the forward end of the pole as thus shortened I secure by screws or otherwise a closely-fitting ferrule 11, of wrought-steel or other suitable strong material. This ferrule is made with a rounded and flattened front end or portion 12 in a horizontal or right-angled axial relation with the length of the main portion of the ferrule, and said rounded or flattened portion is divided by a space 14 to form an upper cheek or arm 13 and lower cheek or arm 13', which makes it constitute a rigid clevis for uniting the pole with the neck-yoke, as clearly shown in Fig. 3. Both cheeks or arms 13 13' are perforated

in line with each other to receive down through them a pivotal bolt 15, having a nut 18 on its one or lower end. The hole in the upper 55 cheek or arm 13 is made square, so as to receive a square shoulder 16 at the head of the clevis-bolt 15 and hold it steady and prevent the clevis-bolt from turning round, while a screw-thread is cut upon the opposite end of 60 the bolt to receive the nut 18. Said pivotal or clevis bolt is preferably about five-eighths of an inch in diameter, and the portion of it 17 that lies between the cheeks or arms 13 and 13' is reduced and flattened on its front and 65 rear sides—that is, at right angles to the length of the pole—so that said reduced portion is five-eighths of an inch wide, or of the same size as the general diameter of the bolt, and five-sixteenths (more or less) of an inch thick. 70 As shown in Figs. 2 and 3, the head of the bolt projects above the top side of the pole, while the nut 18 projects below.

Around the middle of the neck-yoke 19 is fastened by screws or otherwise a sleeve, strap, 75 or shield 20, of wrought-steel or other suitable metal. This sleeve is constructed on its rear side with a lug 21, having a circular head or cheek 22 of nearly the same thickness as the space or distance 14 between the clevis-cheeks 80 13 13', so that it may be easily inserted in said space between the clevis arms or cheeks to form a close fit therewith. The cheek 22 of the lug has a hole 23 in its middle large enough to receive snugly within or through it the reduced portion 17 of the bolt 15 in direction of 85 the width of said portion and has a slot or branch 24 running out from it through the rear edge of said cheek 22 of a width corresponding, or thereabout, with the thickness 90 of the reduced or flattened portion 17 of the bolt and so as to allow of said reduced portion 17 passing through it.

In the application of the invention, when the parts are constructed as shown and described with reference to Figs. 1, 2, and 3 of 95 the drawings, the partially-flattened bolt 15 is first put through the holes in the clevis arms or cheeks 13 13' with the width of its reduced portion 17 in a crosswise direction to the length of the pole, as shown in Figs. 2 and 3, 100 and the nut 18 then put on the lower end of the bolt and screwed on till the bolt is held firm and secure from moving. I then place

the neck-yoke parallel with and close to the pole, so that the branch or slot 24 from the hole 23 in the cheek 22 of the lug on the neck-yoke is opposite the bolt 15, and slip the bolt through said slot and into the hole 23, after which the neck-yoke is turned a quarter round, or thereabout, into a position at right angles with the pole, which puts it in a position ready for hitching the horses to it, as shown in Figs. 2 and 3. So long as the neck-yoke is in the position shown in Figs. 2 and 3 it is impossible for it to be separated from the pole, the keyhole-opening formed by the hole 23 and slot 24 in the cheek 22 of the lug 21 serving to prevent the passage of the bolt out of said opening, though readily admitting of the entry of the bolt into it when the neck-yoke is turned into a parallel position close to the pole. The neck-yoke, however, when adjusted into hitching position, as described, will readily turn around the bolt as an axis, but has no other motion. Thus it has no hinge motion that will allow it to bend back, so as to make it rise or fall backwardly above or below the pole.

To separate the neck-yoke from the pole, first unhitch the horses from the neck-yoke, then turn the neck-yoke around on the bolt as an axis until the radial slot 24 of the keyhole-opening in the cheek 22 of the lug 21 is opposite the thickness of the reduced portion 17 of the bolt, when the neck-yoke and pole will readily separate, said reduced portion 17 of the bolt passing edgewise through the slot. The arms or cheeks 13 13' of the clevis 12 are bent slightly a little relatively to the body of the ferrule 11. This bend will allow the neck-yoke, while still attached to the pole, to lie on a barn or other floor extended in direction parallel with the pole, one-half of the neck-yoke being alongside of the pole and the other half beyond the forward end of the pole, thus economizing room.

If desired, a pivotal bolt 25, of circular form throughout its length or made without a reduced flattened portion, may be provided, as shown in Fig. 4, to be used where it is not desired to separate the pole from the neck-yoke. In such case I withdraw the partially-flattened bolt and substitute therefor the all-round bolt.

Comparing my invention with the ordinary or old style of neck-yoke having a leather strap or iron ring in its middle, through which the pole end projected, there was always danger in such an arrangement of the front end of the pole colliding with or running into another vehicle, animal, or person which chanced to be immediately in front of it; but by my herein-described neck-yoke and pole connections this danger is avoided. Secondly, with the old style of neck-yoke and its connections when either of the neck-yoke straps broke

the pole would drop to the ground and cause the horses to be frightened at such displacement of the pole or of it striking the horses' legs and excite them into running away; but with my improved pole and neck-yoke connections, there being no motion of the neck-yoke around the pole, excepting around the pivotal bolt as an axis, the horse whose strap is not broken will keep up the end of the pole, so as to prevent it touching the ground or striking the legs of either horse. Thirdly, with the old style of neck-yoke and its connections when the traces break the horses step or run forward and the neck-yoke becomes detached from the pole and a runaway and serious consequences or breakages are often the result; but with my invention no such detachment can take place, as the neck-yoke must stay with the pole and the horses stay with the neck-yoke and the wagon, thus giving the driver the fullest opportunity to stop the horses. Fourthly, or again, with the old style of neck-yoke and its connections when the horses are trotting the gait of the horses produces a wabbling motion of the neck-yoke, which interferes with rapid traveling, while with my invention such motion and consequent interference is entirely avoided. The rigidity of the neck-yoke in my improvement often assists in preventing an upsetting of the vehicle, and, there being no vertical motion of the neck-yoke, the neck-yoke and pole are practically one piece, or as much so as the pole and forward axle of the wagon are one, and when the wagon is in the act of upsetting the horses attached to the neck-yoke hold it to such an extent that upsetting in a general way will be prevented.

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

The combination, with the pole or tongue, of the ferrule on the forward end thereof, constructed with a clevis-like projection in front, composed of an upper arm or cheek and a lower arm or cheek with a space in between them and with a bolt-hole down through them, the neck-yoke with its attached sleeve having a lug in its rear, formed with a flat projecting cheek adapted to fit in between the cheeks on the end of the pole-ferrule and provided with a keyhole bolt-opening up through it, cutting through the edge of it in the rear, and a fixed or non-rotatable pivotal bolt of reduced flattened construction where it passes through the cheek on the lug of the neck-yoke, substantially as shown and described, and for the purposes herein set forth.

JAMES S. BROWN.

Witnesses:

HENRY SCHWAB,
FRED W. BELL.