(No Model.)

J. & P. J. GUTZLER.

WHIFFLETREE.

No. 458,454. Patented Aug. 25, 1891.

Fig. 1.

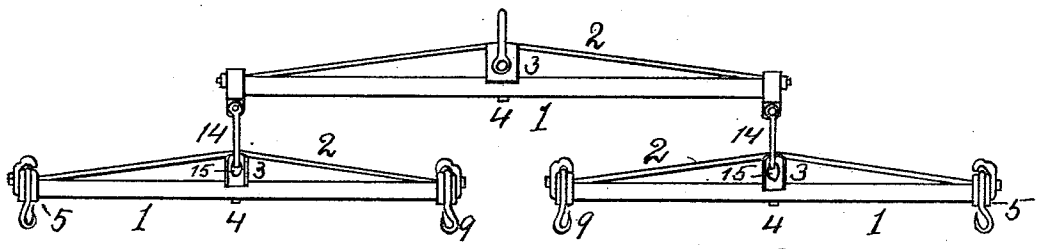


Fig. 2.

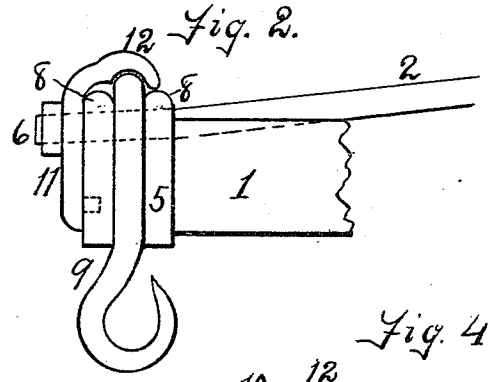


Fig. 3.

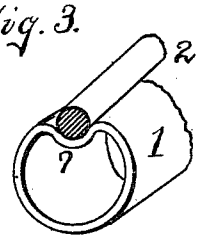


Fig. 4.

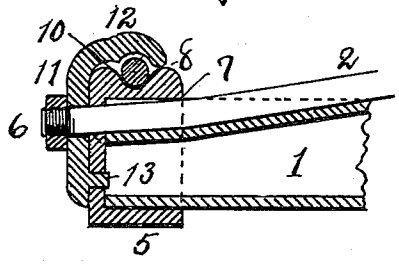
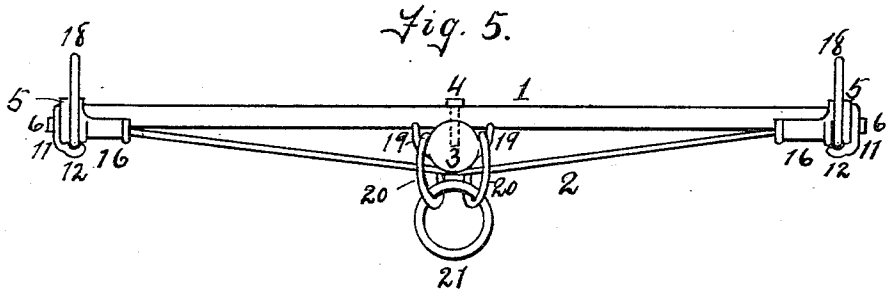


Fig. 5.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 458,454, dated August 25, 1891.

Application filed October 28, 1890. Serial No. 369,628. (No model.)

To all whom it may concern:

Be it known that we, JACOB GUTZLER, a citizen of the United States, residing at Faribault, Rice county, Minnesota, and PHILIP J. GUTZLER, a citizen of the United States, residing at Kenyon, in the county of Goodline and State of Minnesota, have invented certain new and useful Improvements in the Construction of Whiffletrees and Neck-Yokes; and we 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 figures of reference marked thereon, which form a part of this specification.

This invention consists in certain new and useful improvements in the construction of whiffletrees and neck-yokes, as hereinafter more fully described.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of double and single trees constructed according to our invention; Fig. 2, an enlarged view of one end of one of the singletrees, showing the cap and hook-retaining devices; Fig. 3, an end view of the tube forming the body of the singletree and doubletree; Fig. 4, a longitudinal section of the part shown in Fig. 2, and Fig. 5 a plan view of a neck-yoke formed as herein described.

Like characters designate corresponding parts in all of the drawings.

The main part or body of our improved whiffletree consists of a metallic tube 1, which may be of gas-pipe, or any other suitable tubular body of any desired length or diameter. The tubular part 1 is strengthened and braced by a truss or brace rod 2, the outwardly-curved central portion of which is separated from the body by means of a strut 3, and in order to prevent the possible separation of the rod and body too far by reason of any unusual strain the strut is secured to the body 1 by a screw-bolt 4 passing through the latter and entering the body of the strut.

Upon the ends of the body 1 of the single and double trees is a cap 5, adapted to receive the end of the body, and which is held in place thereupon by means of a screw-thread and nut 6, formed upon the end of the brace-rod which passes through the same. The tightening of the nut draws the cap closely against the end of the body 1, which is thus held in place; but for the purpose of preventing any tendency to draw the cap to one side the end of the tube has a groove or channel 7 swaged therein of a size to admit the truss-rod 2, so that the end of the latter lies either wholly or partially within the line of the circumference of the tube, and a solid bed is formed upon each side of the nut against which the cap 5 is drawn.

For the purpose of retaining the whiffletree-hooks in place upon the body the caps are provided with ridges or bosses 8 8 upon each edge upon the opposite side of the cap from that upon which the strain is applied, the hooks 9 9 encircling the cap and therefore the body in such manner that the strain comes upon the body and not upon the cap alone. These bosses 9 9 at each edge thus form a groove 10, in which the body of the hook lies, and for the purpose of retaining the hook always in place we provide a guard 11, which consists of a plate fitting against the outer end of the cap and having a finger 12 curving over from the outer to the inner ridge to hold the hook in place. The guard is held in place by means of the nut 6, the end of the rod 2 passing therethrough, and for the purpose of preventing the turning of the guard from side to side a pin 13 is inserted in the plate or formed thereupon, which enters an aperture in the end of the cap, as shown in Fig. 4.

The singletrees are connected with the doubletree by means of clevises 14 14, secured to the caps upon the ends of the doubletree and inserted in apertures 15, formed in the strut 3 of the singletree. It will be observed that by this construction the various parts are held rigidly in place, the strain is evenly distributed between the body and the truss-rod, and no amount of strain can act to cause any play of any part upon another.

In Fig. 5 we have shown a neck-yoke constructed in substantially the same manner as herein described for whiffletrees. The body

1 is of tubular form and is supported and braced by a truss-rod 2, separated therefrom at the middle by a strut 3. The caps at the ends are substantially the same form as above described, except that an extension 16 16 is formed upon each, extending inwardly along the body of the yoke for the purpose of receiving the neck-straps of the harness, and a ridge or boss is formed upon the inner end of each extension to hold the strap in place. Instead of the hooks described in connection with the whiffletrees, rings 18 18 are secured upon the caps in the same manner as the hooks by guards 11 11.

For the purpose of attachment to the pole of a wagon or other vehicle loops or hooks 19 19 are formed upon each side of the strut 3, between which and the body of the yoke are inserted two links or rings 20 20, and through these rings is interlocked a third ring 21, into which the end of the pole is adapted to be inserted. The strut is held against the body by means of a screw-bolt 4, as before described.

The caps and struts may be constructed cheaply of malleable iron, since there is but little strain upon them, and the hooks, brace-rods, and rings may be of wrought-iron.

Whiffletrees and neck-yokes as thus constructed are light and easy to handle, not liable to break or get out of order, and in case of breakage can be easily repaired.

We claim as our invention—

1. The combination of the tubular metallic body, the brace-rod curved outwardly at its center, a strut separating said body and rod, caps at each end of said body having a circumferential groove formed thereupon, and a plate having a finger extending across said groove, the said brace-rod passing through said cap and plate and provided at its outer extremity with screw-thread and nut, substantially as and for the purpose herein specified.

2. The combination of the tubular metallic body, the brace-rod curved outwardly at its center, a strut separating said body and rod, caps at each end of said body, and a depression or groove formed longitudinally in said tubular body at each end by bending the periphery of the same inwardly in reverse curve to a depth nearly or quite equal to the thickness of the rod, whereby the said rod may lie wholly or partially within the circumference of said body, the said rod passing through said cap and provided at its outer extremity with screw-thread and nut, substantially as and for the purpose herein specified.

3. The combination of the tubular metallic body, the brace-rod curved outwardly at its center, caps at each extremity of the body embracing the ends of the same and through which the ends of said brace-rod pass, screw-thread and nut at each extremity of said rod, a strut having eyes or hooks formed upon its opposite sides, links or rings inserted in each of said eyes, and a third ring interlocked with said links or rings, substantially as and for the purpose herein specified.

In testimony whereof we affix our signatures in presence of two witnesses.

JACOB GUTZLER.
PHILIP J. GUTZLER.

Witnesses:
L. D. NEWCOMB,
A. D. KEYES.