P. BLONDELL & J. E. ALLARD.

WHIFFLE AND DOUBLE TREE.

APPLICATION FILED NOV. 16, 1907.

1,020,183. **Patented Mar. 12, 1912.**

2 SHEETS—SHEET 1.

Fig. 1.

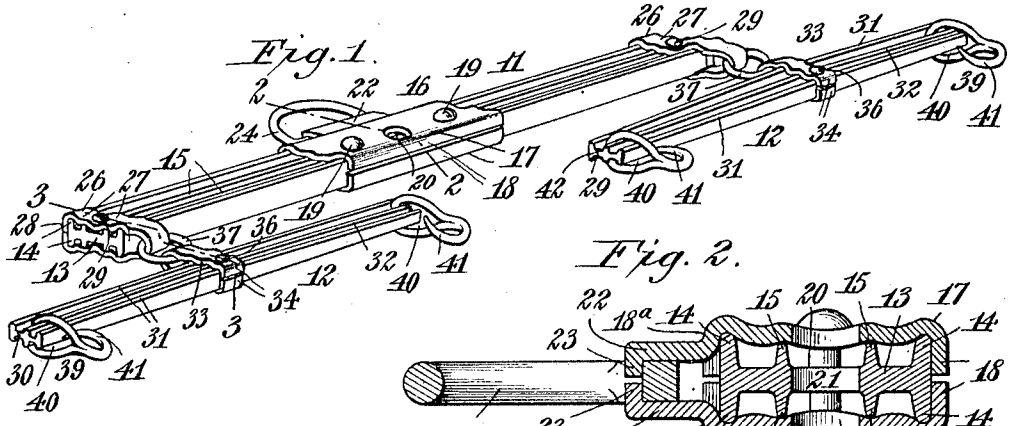


Fig. 2.

Fig. 3.

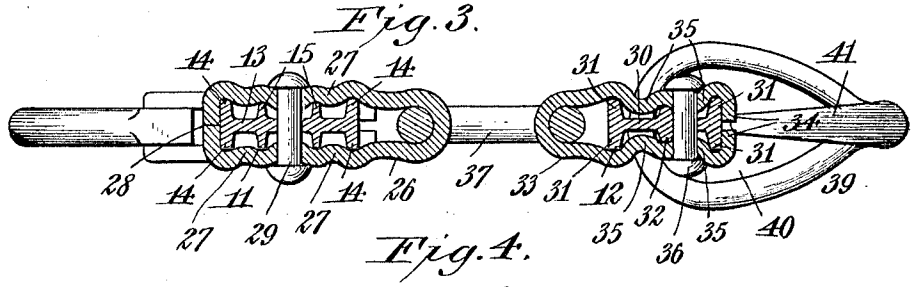


Fig. 4.

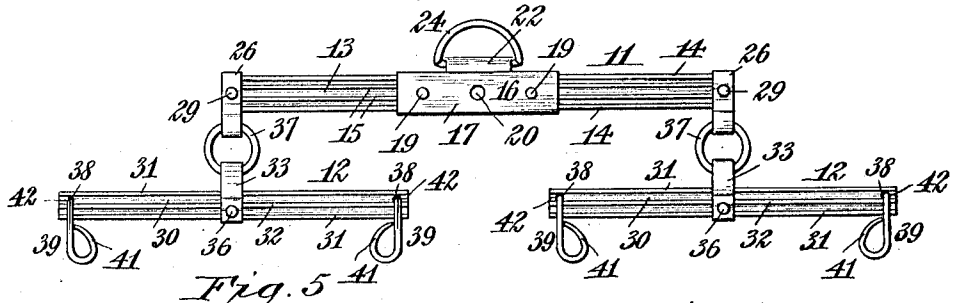
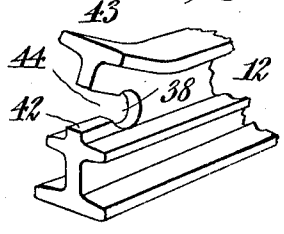
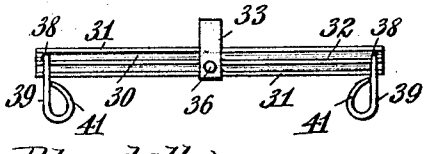


Fig. 5

Fig. 6.





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2 SHEETS—SHEET 2.

Fig. 7.

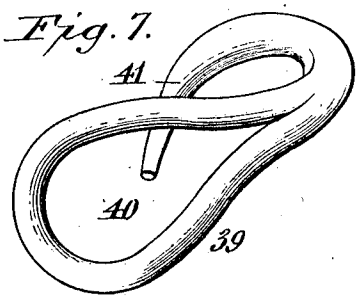


Fig. 8.

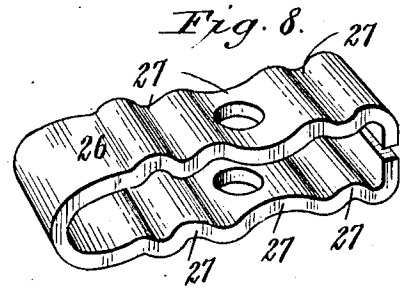


Fig. 9.

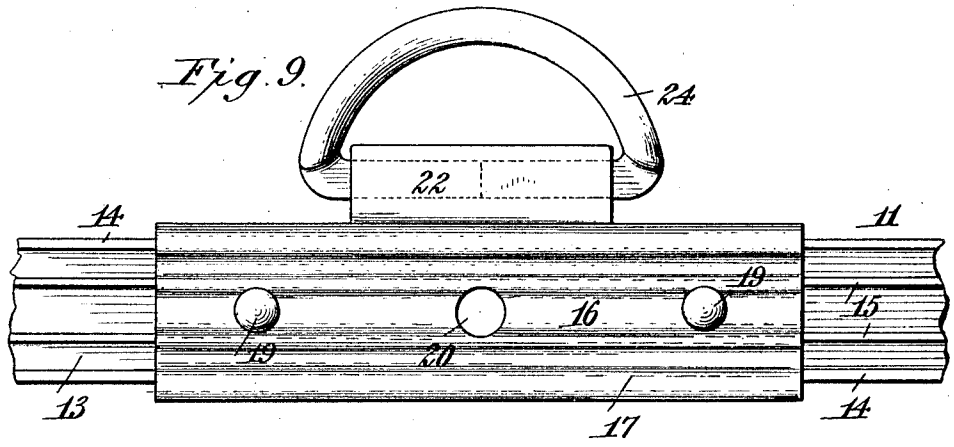
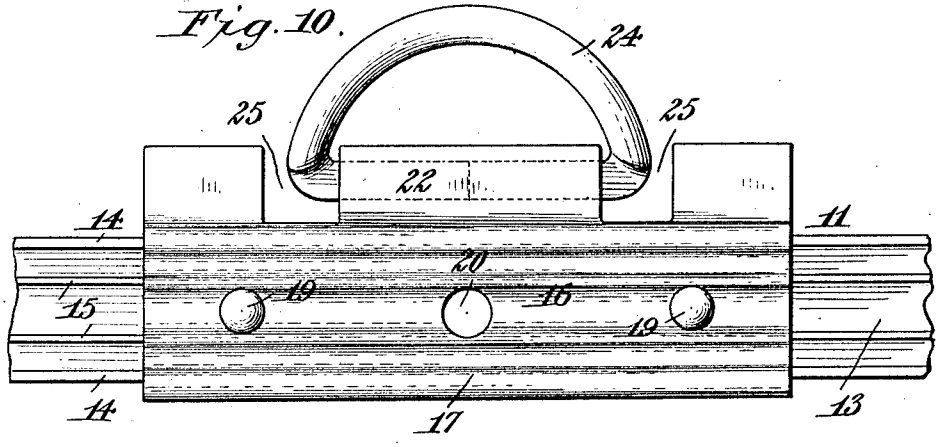


Fig. 10.



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UNITED STATES PATENT OFFICE.

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WHIFFLE AND DOUBLE TREE.

1,020,183. Specification of Letters Patent. Patented Mar. 12, 1912.

Application filed November 16, 1907. Serial No. 402,448.

To all whom it may concern:

Be it known that we, PETER BLONDELL and JAMES E. ALLARD, both citizens of the United States, and residents of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Whiffle and Double Trees, of which the following is a specification.

Our invention relates to improvements in whiffle-trees—both double and swingle—and to the connection of the several parts.

The objects of our invention are, to simplify and improve upon the manner of securing the trace-hooks to the whiffle-trees; to provide improved means of connection between the whiffle-trees and the evener in a double-tree; to provide improved retainer-clips; and to so construct the several parts of the double-tree that the attachment of the trace-hooks thereto and the connections between the several parts, will not weaken the same.

Our invention consists in the construction, arrangement and combination of parts to be hereinafter described and particularly pointed out in the appended claim.

In the drawings, in which similar numerals of reference refer to similar parts,—Figure 1 is a perspective view of a double-tree embodying our invention. Fig. 2 is an enlarged transverse section through the evener, taken on line 2—2, Fig. 1. Fig. 3 is an enlarged transverse section through the evener and one of the whiffle-trees, taken on line 3—3, Fig. 1. Fig. 4 is a plan view of the double-tree. Fig. 5 is a perspective view of one end of one of the whiffle-trees showing the extremity spread to open up the opening in which a trace-hook is held. Fig. 6 is a plan view of a swingle-tree embodying certain features of our invention. Fig. 7 is a detached perspective view of one of the trace-hooks. Fig. 8 is a detached perspective view of one of the clips on the evener. Fig. 9 is an enlarged plan view of the intermediate part of the evener. Fig. 10 is an enlarged plan view showing the pivot-clip on the evener in modified form.

The reference numeral 11 designates the evener, and 12 the whiffle-trees having swivel connections midlength with the ends of the evener. The evener is preferably constructed from a bar of iron or steel, and in preferred form comprises a flat body-portion 13, marginal flanges 14, and intermediate flanges 15; said flanges projecting from opposite sides of said flat body-portion. In this manner a bar of minimum weight is obtained which will withstand the severest strain to which it may be subjected. Midlength the evener is provided with a securing-device 16, which is formed of two metallic plates 17 that lie on opposite sides of the evener and have their forward marginal portions bent at right-angles, as at 18, to lie against the front edge of the evener. Said plates are bulged inward slightly at points between the flanges 14 and 15, and are bent inward in rear of the evener, as at 18^a, so that they together form a clip which embraces the evener, said clip being secured to the evener by rivets 19 passing through openings in said plates and coinciding openings in the body-portion of the evener between the intermediate flanges 15 thereof. 20 are pivot-holes formed in said plates and 21 an opening in the flat body-portion of the evener, through which a pivot-pin may be passed to secure the device to a pole or other part of an implement or vehicle.

The plates 16 are each provided with rearward extensions 22 having opposite flanges 23 arranged at right-angles to the extensions, and between said extensions a loop 24 is held, through which may be passed a chain or other object attached to a load.

In the modification shown in Fig. 10, the two plates of the pivot-clip are of even width throughout their length and they are provided along their rear marginal portions with notches 25 through which the loop 24 projects.

To the ends of the evener we secure clips 26 which are each formed of a strip of metal bent to embrace the bar and provided with reëntrant portions 27 that enter the spaces between the flanges of the evener. The rear ends of each strip of metal are brought together in rear of the evener, as at 28. Each of the clips is riveted, as at 29, to prevent the ends thereof separating under strain; the rivet thereof being passed through opposite reëntrant portions of the clip and through the flat body or web of the evener. In a bar having marginal flanges and two intermediate flanges, six abutments are provided for the clip on each side of the bar, thus relieving the rivet of all direct strain; the rivet serving merely to hold the ends of

the clip together and the reëntrant portions thereof between the flanges of the bar.

Each of the whiffle-trees 12 is formed of a bar of iron or steel, herein shown in preferred form comprising a flat body-portion 30, marginal flanges 31 on opposite sides of said body-portion, and intermediate flanges 32 likewise formed on opposite sides of said body-portion. It is of course understood that our invention can be embodied in a bar having a single projection, or a single flange on each side of the bar, as will be apparent from the description relating to the purpose of these flanges.

33 designates clips secured to the whiffle-trees midlength thereof; each of said clips being formed of a strip of metal bent midlength between its ends and passing over and underneath the bar with the ends thereof bent at right-angles, as at 34, to lie against the front edge of the bar. These clips are each provided with reëntrant portions 35 that enter the spaces between the flanges of said bars, and they have rivets 36 through opposite reëntrant portions thereof and through an opening in the flat portion of the bar between the front marginal flanges and the intermediate flanges thereof. Connecting the clips at the ends of the evener with the clips 33 on the whiffle-trees, are links 37 whereby the whiffle-trees are given the desired swivel movement. In the particular construction herein shown, in which these flanges are provided on each side of the whiffle-tree, we provide the body-portion or web of each tree with apertures 38 directly in rear of the intermediate flange, and through said apertures, swivel or trace-hooks 39 are passed which extend forward for connection with the traces of a harness. Said apertures are arranged close to the ends of the whiffle-trees, and when the trace-hooks are placed under strain they bear against the intermediate flange so as to relieve the web or flat body-portion of the bar of strain.

As shown in Fig. 4, the rivet passing through each whiffle-tree and the clip arranged midlength thereon is located in front of the intermediate flange. By this arrangement the strain on the center clips and the trace-hooks is imparted to the intermediate flanges on opposite sides thereof, thus allowing the whiffle-trees to be made light and consequently cheap, which is a very important and desirable feature of an invention of this character, for the reason that bars of this nature are rolled to the shape desired, and the amount of metal in each bar governs to a great extent the cost of production. The trace-hooks are forged from a round bar of iron and each has an eye 40 at its rear end, and a hook 41 at its front end arranged at a right-angle to the eye. With a view of readily securing the eyes of the trace-hooks in the openings at the ends of the whiffle-trees, the bars forming the latter are slitted, as at 42, from the extremities thereof to the openings 38, to allow deflection laterally of portions of each bar, as at 43, Fig. 5, whereby openings 44 are formed through which the hooks are passed when placed in the openings 38. When the trace-hooks are properly entered, the openings 44 are closed by hammering the deflected portions of the bars into place. In this manner the trace-hooks are quickly and securely connected to the whiffle-trees.

In Fig. 6 we have shown a swingle-tree for use without an evener, the same being an exact duplicate of the whiffle-trees used in connection with an evener. The attachment of the center clip may be any device best adapted for the vehicle or implement to which the swingle-tree is to be attached.

Having thus described our invention, what we claim is,—

A double-tree comprising an evener having longitudinal marginal flanges and a similar intermediate flange, a clip formed of two strips of metal riveted to opposite sides of the evener at a point midlength and fashioned to provide reëntrant portions fitting between said flanges, said strips of metal having rearward extensions with opposed right-angled portions to form a pocket, a loop held in said pocket, and whiffle-trees secured to the ends of said evener.

In testimony whereof, we have affixed our signatures in the presence of two subscribing witnesses.

PETER BLONDELL.
JAMES E. ALLARD.

Witnesses:
EMIL NEUHART,
CHRIST FEINLE, JR.