(No Model.)

B. F. ALVEY & F. LESEURE.

WHIFFLETREE COUPLING.

No. 393,347. Patented Nov. 27, 1888.

Fig. 1.

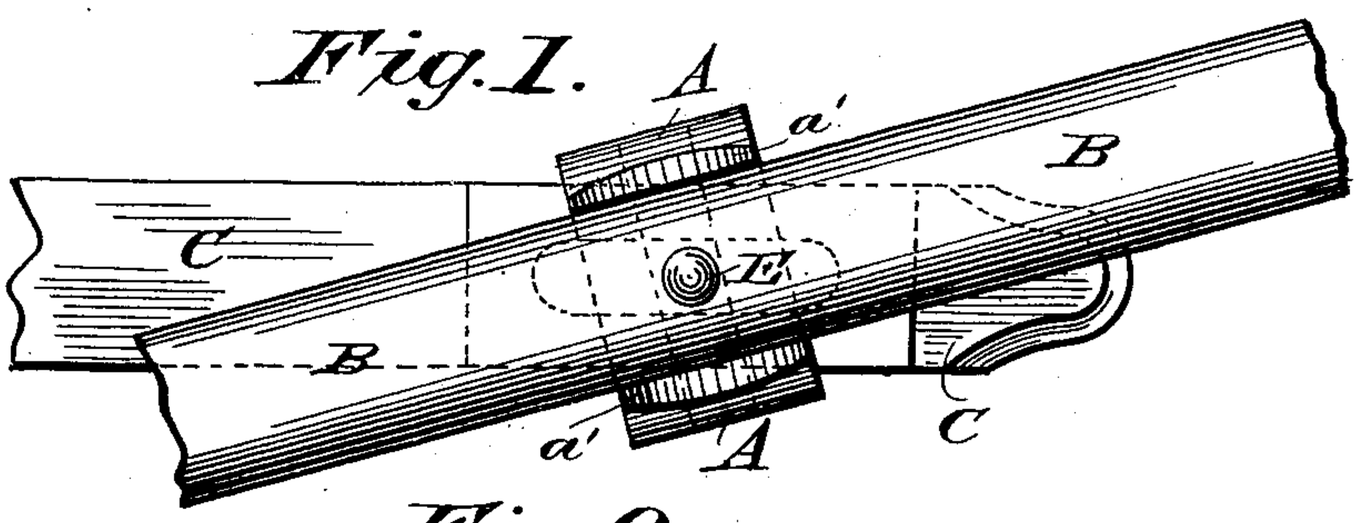


Fig. 2.

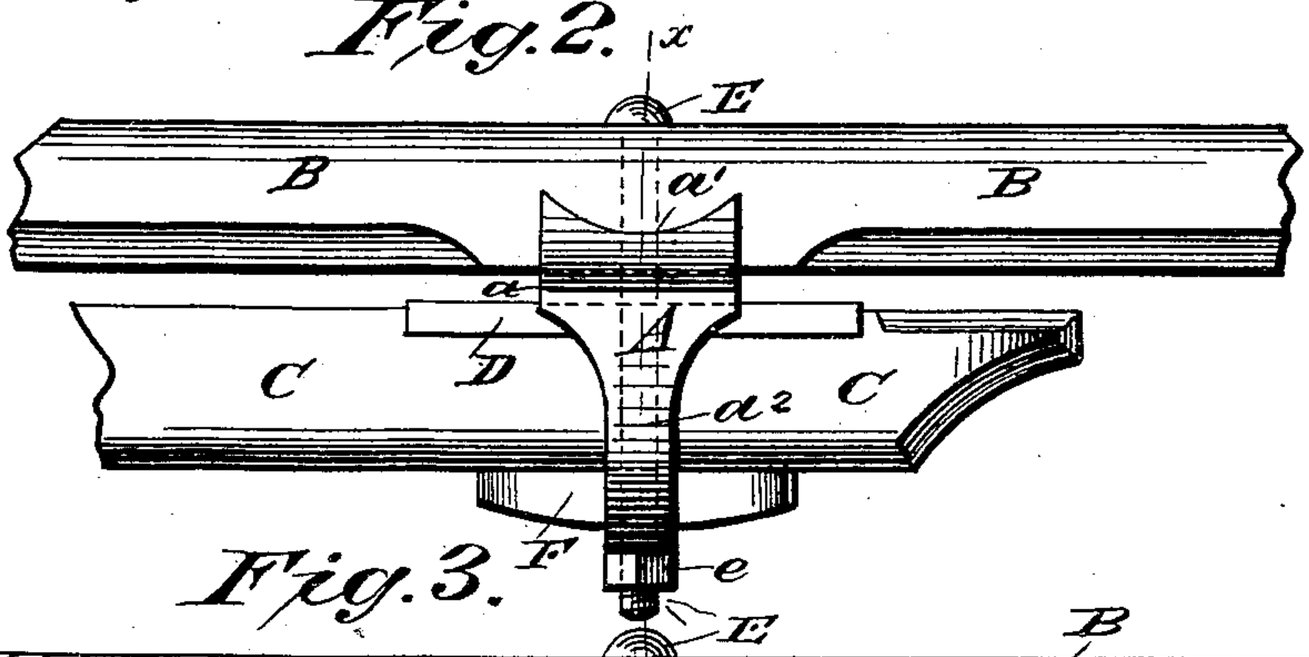


Fig. 3.

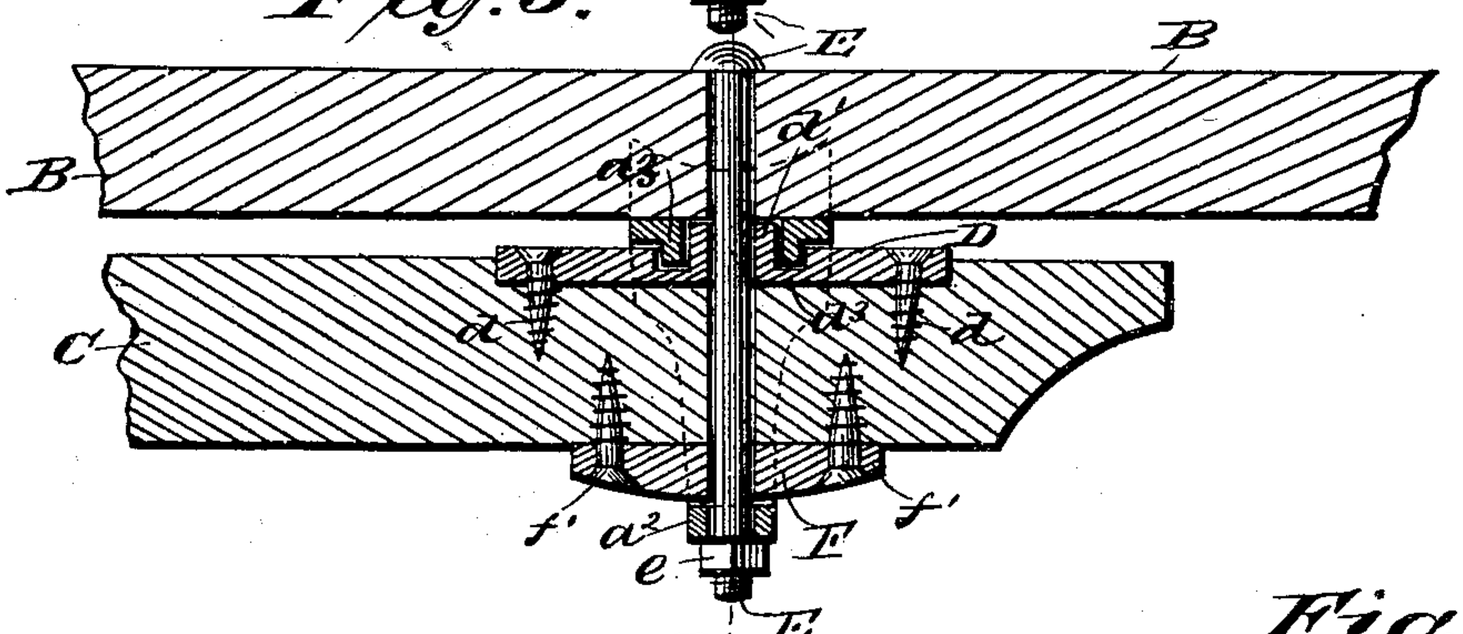


Fig. 4.

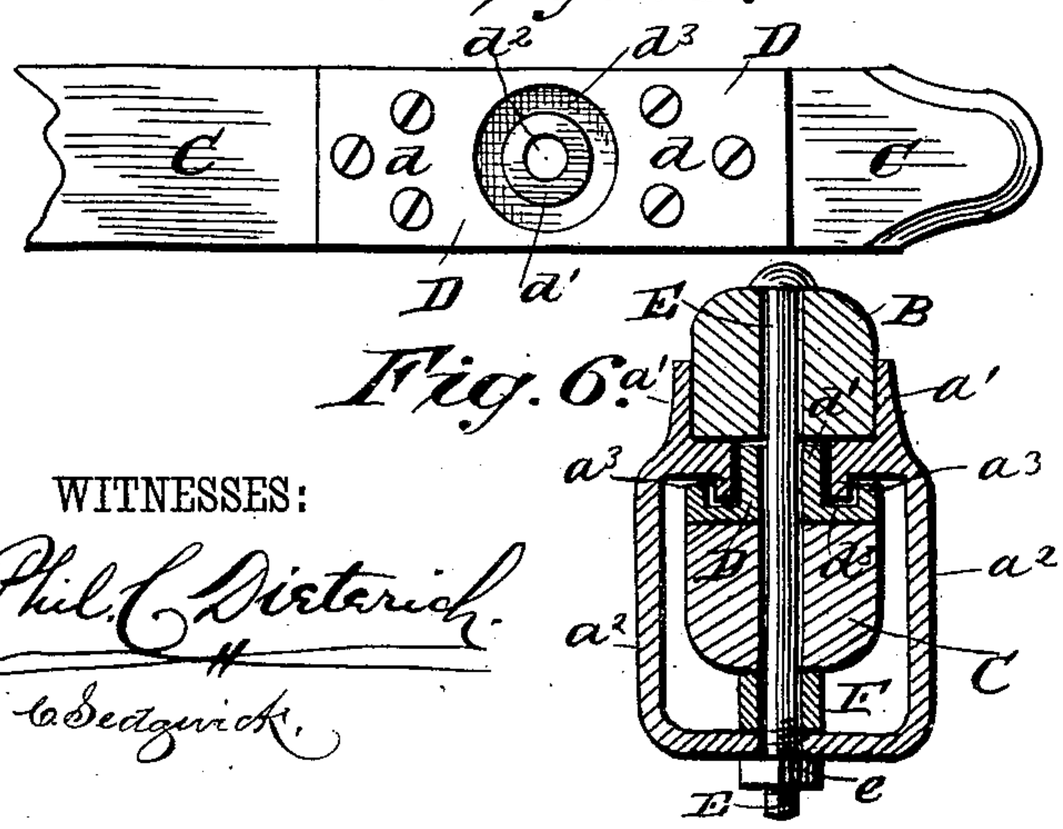
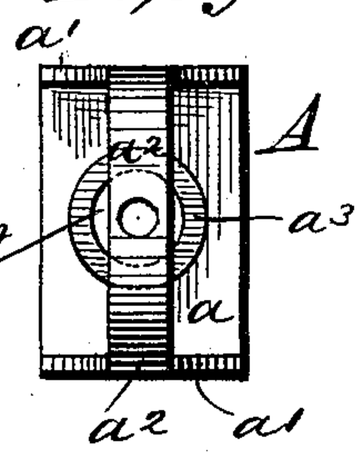


Fig. 5.



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UNITED STATES PATENT OFFICE.

BENEDICT F. ALVEY, OF ST. MARY'S, INDIANA, AND FRANK LESEURE, OF MARSHALL, ILLINOIS.

WHIFFLETREE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 393,347, dated November 27, 1888.

Application filed April 4, 1888. Serial No. 269,563. (No model.)

To all whom it may concern:

Be it known that we, BENEDICT F. ALVEY, of St. Mary's, Vigo county, Indiana, and FRANK LESEURE, of Marshall, in the county of Clark and State of Illinois, have invented a new and Improved Whiffletree-Coupling, of which the following is a full, clear, and exact description.

Our invention relates to whiffletree-couplings, and has for its object to provide a simple, inexpensive, neat, and substantial device of this character for coupling whiffletrees to doubletrees in a manner allowing free horizontal play of both trees without rocking motion of either tree and without strain on the pivot-bolt which connects the trees, thereby promoting the durability of the coupling of the trees with each other and of the doubletree with the draft-tongue of a vehicle.

The invention consists in certain novel features of construction of the coupling, all as hereinafter described and claimed.

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

Figure 1 is a plan view of parts of a whiffletree and doubletree connected by our improved coupling. Fig. 2 is a front view thereof. Fig. 3 is a central longitudinal section thereof. Fig. 4 is a plan view of the end of the doubletree and its connected metal plate, which forms a part of the coupling. Fig. 5 is an under side view of the main or yoke part of the coupling, and Fig. 6 is a vertical transverse section of the coupled single and double trees and taken on the line *x x x* in Figs. 2 and 3 of the drawings.

The main part, A, of the coupling is made with a base-plate, *a*, on which the whiffletree B rests, and with front and rear lips or flanges, *a' a'*, which project upward from the ends of the base-plate and lap onto the front and rear faces of the whiffletree. The part A also is provided with a yoke or stirrup, a^2, through which the adjacent end of the doubletree C is passed. To the top of the doubletree which faces the under side of the whiffletree is fixed, preferably by six screws, *d*, a metal plate, D, which is provided with a central boss, *d'*, having an aperture, d^2, which passes clear through the plate to receive the coupling-bolt E, and provided outside of this boss with an annular groove or recess, d^3, which receives a corresponding annular flange or collar, a^3, formed on the under side of the plate *a* of the part A of the coupling, said base-plate having also a central aperture, a^4, which receives the boss *d'* of the doubletree-plate D. Between the end or cross-bar of the stirrup a^2 and the lower face of the doubletree C is placed a metal plate, F, which has a central aperture, *f*, through which the bolt E passes, and is preferably convexed lengthwise at its lower face next the stirrup and is fixed to the doubletree by a couple of screws, *f'*. The bolt E is passed downward through the whiffletree, the aperture d^2 of the plate D, the doubletree C, the plate F, and through a hole at the center of the cross-bar of the stirrup a^2 of part A, and outside of the stirrup receives a nut, *e*, which when tightened sufficiently holds all parts of the coupling in place to connect the whiffletree to the doubletree in a simple and substantial manner, and allows the whiffletree to turn horizontally either way on the boss *d* of the doubletree-plate D and the bolt E, as centers of motion, to accommodate the uneven draft of the team or while turning a vehicle drawn by the team.

In assembling the parts to effect the coupling of the whiffletree to the doubletree, the plate D will be fixed to the doubletree, and the part A of the coupling will then be slipped over the doubletree and its plate D until the annular flange a^3 on the part A enters the annular groove d^3 of the plate D. The plate or key F will then be slipped in between the end bar of the stirrup a^2 and the doubletree, and will be fastened to the doubletree to hold the parts A D C together, whereupon the whiffletree B will be laid in between the flanges or lips *a' a'* of the part A, and the bolt E will then be passed through the parts B *a* D C F and the stirrup a^2, and the nut *e* will be applied to the bolt, and the coupling is complete.

It is obvious that by means of the flanges *a'* on the main casting or metal part A of the coupling and the interlocking of the parts a^3 d^3 of the parts A D, together with the lower

connection or joint of the stirrup a^2, with the pivot-bolt E, will not only relieve this bolt of all the draft-strain brought upon the whiffletree, but will also distribute the strain on the whiffletree to the doubletree in a manner to cause a square draft-strain on both the trees, and prevent either or both of them from turning over forward edgewise, causing undue strain on the coupling of the two trees or the connection of the doubletree with the tongue of a vehicle, and at the same time the parts of the coupling will be held snugly, so that rattling of it will be prevented; and the wear of the parts may be taken up at any time by tightening the nut *e* upon or beneath the coupling-stirrup a^2. This construction allows a very light pivot-bolt to be used, which will not materially weaken the whiffletree or doubletree by its passage through them, and, finally, the stirrup a^2 is so much wider at its inside opening than the doubletree that it allows free relative horizontal turning of the trees—one on the other—and facilitates repairs, as the doubletree need not be fitted to the interior of the stirrup, as in other couplings of this general character.

Having thus fully described our invention, we claim as new, and desire to secure by Letters Patent—

1. The combination, in a whiffletree-coupling, of a main part or casting, A, formed with a plate, *a*, having flanges a' a', and adapted to three faces of the whiffletree B, a stirrup, a^2, inclosing the doubletree, a plate, D, fixed to the doubletree and having a laterally interlocking connection with the plate *a* of part A, a key-plate, F, held between the stirrup and doubletree, and a pivot-bolt passed through the parts B A D C F and stirrup a^2, and receiving a nut or retaining device at the stirrup, substantially as described, for the purposes set forth.

2. The combination, in a whiffletree-coupling, of a main part or casting, A, formed with a plate, *a*, having flanges a' a', and fitting three faces of the whiffletree, and provided also with a stirrup, a^2, inclosing the doubletree, said plate *a* having an annular flange, a^3, at its under side, a plate, D, held to the doubletree and provided with a boss, d', entering a hole, a^4, in the plate *a*, and an annular recess, d^3, receiving the flange a^3 on plate *a*, a key-plate, F, held between the doubletree and stirrup a^2, and a pivot bolt or pin, E, passed through the parts B A D C F, and a nut, *e*, on the bolt below the stirrup a^2 of part A, all constructed and arranged for operation substantially as described, for the purposes set forth.

3. In a whiffletree-coupling, the main part or casting A thereof, formed with a plate, *a*, and flanges a' a', adapted to three faces of the whiffletree, and a stirrup, a^2, adapted to inclose the doubletree, and said plate *a* having a central aperture and an annular tongue adapting it to interlock laterally with a plate on the doubletree, substantially as herein set forth.

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