(No Model.)

H. BARBER.

WHIFFLETREE.

No. 558,024. Patented Apr. 14, 1896.

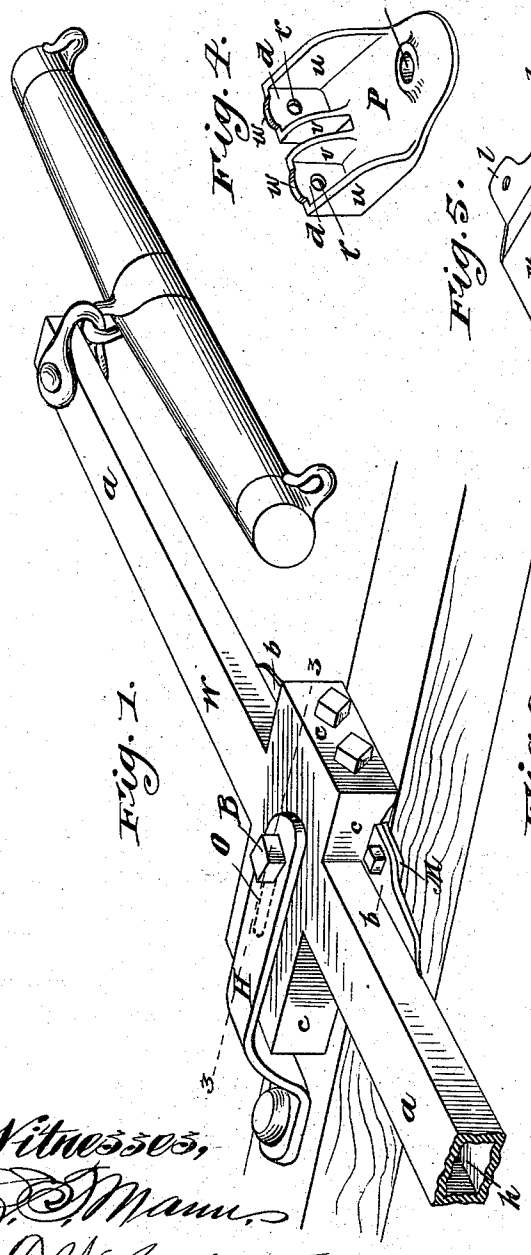

Fig. 1.

Fig. 4.

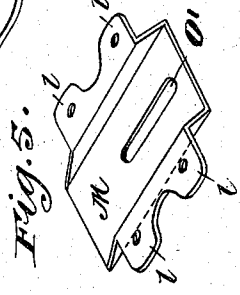

Fig. 5.

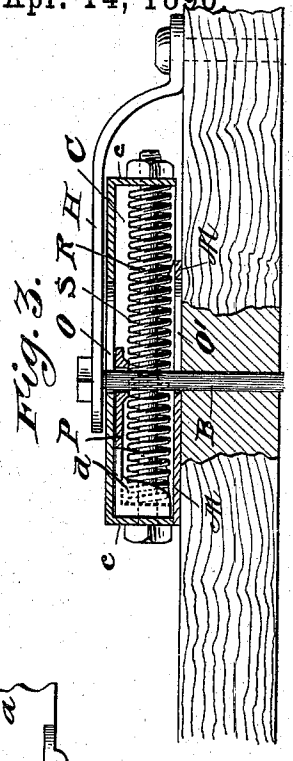

Fig. 3.

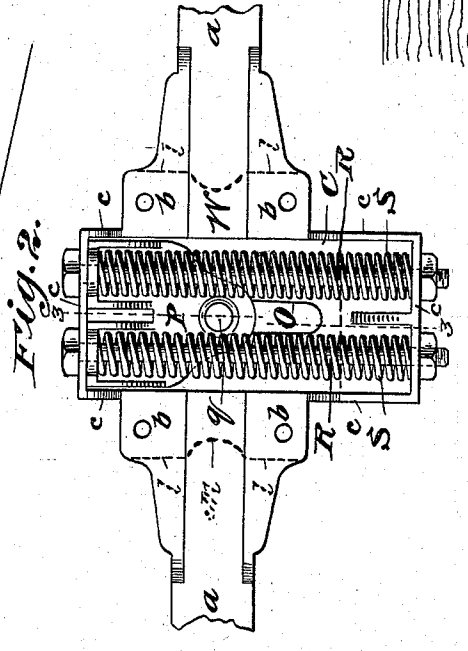

Fig. 2.

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WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 558,024, dated April 14, 1896.

Application filed November 20, 1894. Serial No. 529,349. (No model.)

To all whom it may concern:

Be it known that I, HIRAM BARBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Whiffletrees; and I do hereby 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.

Of the drawings herewith submitted, Figure 1 is a perspective view of my improved whiffletree. Fig. 2 is an inverted view of the central portion of my improved whiffletree with the lower face or wall thereof removed. Fig. 3 is a sectional view of my improved whiffletree on the dotted line 3 3 of Fig 1. Fig. 4 is a view in perspective of the anchor-plate used in my improved whiffletree. Fig. 5 is a view in perspective of the plate which forms the lower face of the central chamber in my improved whiffletree.

It will be observed that in the construction of my improved whiffletree I make use of the arms *a a*, with their interior ends attached to the side walls *c c* of the central chamber C, with the central longitudinal line of the arms *a a* at right angles to the central longitudinal line of the chamber C, while the upper surface of the arms *a a* on the horizontal line thereof is uniform with the upper surface of the upper face or wall of the chamber C, which is provided with the central longitudinal slot O. The inner ends of the arms *a a* are also provided with the brackets *b b b b*. I also make use of the plate M, provided with the central longitudinal slot O′, and the lugs *l l l l*, also the anchor-plate P, provided with the hoods *d d* and the aperture *q*. The hoods are formed by the rear walls *w w*, the interior surface of the plate P, and the side walls *u u* and *v v*. I also make use of the rods R R and the coil-springs S S.

The object of my improved whiffletree is to secure a yielding connection between the draft-animal and the loaded wagon or other vehicle. The value of such a connection is now widely recognized. Various devices have been used heretofore to accomplish this purpose. In one a leaf-spring attached longitudinally at the rear of a common wooden whiffletree has been found highly satisfactory. In others the whiffletree has been inclosed in an iron casing with a coil-spring in front and upon which it is pressed when it is moved forward. In still another form the whiffletree is attached to the axletree of the wagon or other vehicle by means of chains provided with coil-springs, which afford the necessary elasticity when forward pressure is applied to the whiffletree. In all these devices, however, there is lacking somewhat of simplicity in construction and somewhat of stability or durability when in actual use. Simplicity of construction is of great importance, since it has relation to the convenience found in using the device and also to the cost thereof, while the general use of any article is practically impossible unless it has durability.

In my improved whiffletree I have sought to combine, in the highest degree practicable, simplicity of construction and durability.

To this end my improved whiffletree, in its preferable form, is made either of cast-steel or the highest grade of refined malleable iron.

The arms of my improved whiffletree are in the form of a hollow oblong cube about twenty-three (23) inches in length, two (2) inches in width by one and three-fourths ($1\frac{3}{4}$) inches in thickness. The central portion of my improved whiffletree is in the form of a hollow oblong cube or chamber about eight and one-half ($8\frac{1}{2}$) inches in length, four (4) inches in width by two (2) inches in depth.

The arms of my improved whiffletree are attached to the sides of the central chamber thereof slightly forward of the center thereof in cross-section.

The upper surface of the arms of my improved whiffletree are made integral with the upper surface of the central chamber thereof, while the sides of the arms are also made integral with the sides of the central chamber of my improved whiffletree at the point of junction.

In each of the four angles formed by the junction of the arms of my improved whiffletree with the sides of the central chamber thereof there is a bracket, made integral at the interior end and side with the arm and side of the central chamber, respectively, of my improved whiffletree. This bracket is de-

signed to furnish a point attachment for the plate which forms the under side or face of the central chamber of my improved whiffletree.

The upper surface of the central chamber of my improved whiffletree is provided with a central longitudinal slot about four inches in length and extending backward from a point about on the forward line of the arms of my improved whiffletree. The plate which forms the side or face of the central chamber is also provided with a corresponding slot. When in position, this plate is bolted firmly to the brackets attached to the exterior side walls of the arms and central chamber of my improved whiffletree.

The central chamber in my improved whiffletree is designed for the reception of two coil-springs, two rods passing through same longitudinally, and anchor-plate. The anchor-plate at the front end thereof is provided with two hoods for the reception of the forward ends of the two coil-springs, respectively, while the rear end thereof is provided with an aperture for the passage of the whiffletree-bolt.

The end walls of the oblong chamber in my improved whiffletree are provided with suitable apertures for the passage of the body of the rods which are inclosed by the coil-springs. The rear walls of the hoods of the anchor-plates are also provided with corresponding apertures for the passage of the stem of the rods.

When, therefore, the several parts of my improved whiffletree are in position, the coil-springs S S are placed longitudinally in the oblong chamber C, with front ends thereof resting in the hoods *d d* and the rods R R passing through the same and also through the walls *c c* of the chamber C and the end walls *w w* of the hoods *d d*, while the plate M is firmly attached to the arms *a a* and chamber C by means of the brackets *b b b b* and the lugs *l l l l*. When attached to the wagon or vehicle, the bolt B passing down through the forward end of the slot O, the aperture *q* in the anchor-plate P, through the forward end of the slot O′, and thence down through the pole, my improved whiffletree is held firmly in position, and when forward motion is given to the arms *a a* and central chamber C the rear wall *c* thereof is driven against the rear ends of the coil-springs S S, the forward ends of which are held in the hoods *d d*. By this process the coil-springs S S are compressed, and thus the yielding connection secured between the vehicle and the draft-animal.

Having thus fully explained the object and purpose of my improved whiffletree, its method of construction and mode of operation, what I claim as novel and as of my invention, and for which I claim Letters Patent, is as follows:

1. As an improvement in spring draft attachments, a metallic whiffletree formed hollow with a central transverse open portion constituting a chamber adapted to receive and confine two spiral springs at right angles with the line of the arms, and having an elongated opening through its upper face, substantially as and for the purpose described.

2. As an improvement in spring draft attachments for vehicles, a hollow metallic whiffletree formed with an integral central transverse casing or spring-chamber, occupying a position at right angles to the line of the arms, and adapted to receive and inclose two spiral or coil springs, surrounding and held in place by two rods extending longitudinally through the chamber, an anchor-plate located upon the tongue within the forward end of the chamber provided with hoods or pockets to receive the forward ends of the springs, and an evener-bolt projecting downward through a longitudinal slot formed in the upper face of the spring-casing into and through the anchor-plate and tongue, all arranged and combined substantially as described.

3. As an improvement in spring draft attachments for vehicles, a hollow metallic whiffletree formed at its center with a box-like oblong portion integral with the arms and occupying a position at right angles with them, said portion having a central longitudinal slot in its upper face and perforations in its end walls, and forming a chamber to receive a pair of spiral or coiled springs designed to surround longitudinal rods projecting through the chamber, a bottom plate designed to form the lower face of the oblong portion or chamber, also provided with a central longitudinal slot to correspond with that in the upper face, and having perforated legs at its sides, whereby it may be bolted to brackets on the transverse oblong portion, and an anchor-plate provided with pockets or hoods at one end to receive the forward end of the coiled springs, all arranged and combined substantially as and for the purpose described.

4. In a spring draft attachment for vehicles, a hollow metallic whiffletree formed of a central longitudinal section and lateral arms, all integral, the central section forming a chamber adapted to confine two spiral springs and having in its upper or horizontal face a central longitudinal slot, and openings or perforations in its end walls, an anchor-plate formed with hoods or pockets in one end designed to receive the front end of the spiral springs and to occupy a position within the front end of the chamber in the central longitudinal section, rods extending longitudinally through the chamber at each of the central slots in the upper face, their ends resting and confined within the perforations in the end walls, spiral springs surrounding the said rods, their forward ends resting in the hoods or pockets of the anchor-plate, and an evener-bolt projecting vertically through the elongated slot in the upper wall of the chamber, thence downward between the springs

through the anchor-plate and the tongue, all arranged and combined substantially as and for the purpose described.

5. In a spring draft attachment for vehicles, a hollow metallic whiffletree composed of a central oblong portion or casing designed to occupy a position longitudinal with the line of draft and form a chamber or recess for confining two spiral or coil springs; arms integrally united to said central portion and extending laterally in opposite directions from either side, an anchor-plate within the forward end of the central oblong portion having at its front end hoods or pockets to receive the front ends of the spiral springs and at its rear end an aperture to receive the vertical evener-bolt, and the spiral springs located longitudinally within the sides of central chamber, their forward ends resting in the anchor-plate, all arranged and combined as and for the purpose described.

6. In a spring draft attachment, a hollow metallic whiffletree formed in one piece and consisting of a central oblong compartment open on its under side, and lateral arms extending from opposite sides thereof, so that the central portion shall occupy a position longitudinal with the line of draft and at right angles with the lateral arms, said central portion or chamber being provided with a central longitudinal slot through its upper face and perforations in its end walls, in combination with a pair of coil-springs within the central chamber, longitudinal rods extending through the perforations in the end walls and through the interior of the coil-springs within the central chamber, an anchor-plate within the chamber provided with pockets to hold the forward end of the springs, and the evener-bolt extending vertically through the longitudinal slot in the upper face of the central chamber and through the anchor-plate and tongue, substantially as and for the purpose set forth.

7. In a spring draft attachment for vehicles, a hollow metallic whiffletree formed with a box-like central oblong portion at right angles with the arms and integral therewith, forming a longitudinal chamber adapted to inclose two spiral or coiled springs, said portion or chamber having in its upper face a central longitudinal slot designed to accommodate the evener-bolt, and through its end walls perforations to accommodate longitudinal rods designed to extend through the chamber and through the interior of the coiled springs and hold them in place, in combination with such horizontal rods extending longitudinally through the perforations in the end walls of said chamber, and spiral springs confined within the chamber and surrounding the longitudinal rods, and means whereby the forward ends of the springs may be held and the springs compressed within the chamber when forward draft is applied to the whiffletree, substantially as and for the purpose described.

8. As an article of separate manufacture a cast metallic whiffletree, having a central, open, oblong chamber formed by two end and two side walls and one horizontal wall, the longitudinal line of which chamber is at right angles with the longitudinal line of the arms of such whiffletree, and which chamber is also provided with a central longitudinal slot in the horizontal wall thereof, and the perpendicular sides of which are made integral with two hollow oblong arms at the ends thereof, and which chamber is also suitable for the reception of two coil-springs, two rods and an anchor-plate placed therein longitudinally, the end walls of such chamber being susceptible of perforation for the passage of the stems of such rods, substantially as and for the purposes and uses above set forth.

9. In a spring draft attachment for vehicles, a hollow integral metallic whiffletree consisting of the combination of a central longitudinal section at right angles with lateral arms, forming a chamber for the reception of spiral springs, also having a central longitudinal slot in its upper face and perforations in its ends, longitudinal rods extending through the chamber, spiral springs surrounding the rods, an anchor-plate within the chamber having hoods or pockets to receive the forward ends of the springs and the whiffletree-bolt projecting down through the slot in the chamber and the anchor-plate confining the latter in position upon the tongue, so that the forward movement of the whiffletree in connection with the anchor-plate will compress the springs, substantially as and for the purpose set forth.

10. In a spring draft attachment a cast metallic whiffletree provided with two hollow, oblong arms attached to a central body or section, the longitudinal line of which central body or section is at right angles with the longitudinal line of such arms, and is provided with a central longitudinal slot and with an engaging-hood at the rear end thereof, in combination with two coil-springs, an anchor-plate provided with hoods on the front end thereof, and a whiffletree-bolt passing through the forward end of the central slot of such body or central plate of such whiffletree, and also through an aperture in the rear end of the anchor-plate between such coil-springs and so arranged that such coil-springs may be compressed by the forward movement of such whiffletree, substantially as and for the uses and purposes above set forth.

11. In a spring draft attachment a cast metallic whiffletree having a central body or section provided with two metallic, oblong arms, the longitudinal line of which body or section is at right angles with the longitudinal line of such arms, and which body or section is provided with a central longitudinal slot and also with an engaging-hood at the rear end of such section, in combination with two coil-springs inclosing two rods, an anchor-plate provided with hoods on the forward ends

thereof for the reception of the front ends of such coil-springs respectively, and an aperture in the rear end thereof and a whiffletree-bolt passing down through the forward end of such central slot in said central body or section, and also through an aperture in the rear end of such anchor-plate between the coil-springs and rods, and so arranged that such springs may be compressed upon said rods by the forward movement of such whiffletree, substantially as and for the purposes and uses above set forth.

12. In a spring draft attachment a metallic whiffletree provided with the central chamber C, having the longitudinal slot O in the horizontal wall thereof, and also with the hollow arms *a a* in combination with the coil-springs S S and the anchor-plate P, the hammer-strap H firmly attached to the pole of a wagon, and the whiffletree-bolt B passing down through the hammer-strap H, through the forward end of the slot O, through the aperture *q* in the anchor-plate P, between the coil-springs S S and thence into the pole of the wagon, all arranged substantially as and for the purposes above set forth.

13. In a spring draft attachment a cast metallic whiffletree provided with the central chamber C, having the central longitudinal slot O, and also with the hollow arms *a a*, in combination with two coil-springs S S, the two rods R R, the anchor-plate P, the hammer-strap H, firmly attached to the pole of the wagon, and the whiffletree-bolt B passing down through the hammer-strap H and through the end of the slot O and through the aperture *q* in the anchor-plate P, between the coil-springs S S, inclosing the rods R R, and thence into the pole of the wagon, all arranged substantially as and for the purposes above set forth.

14. In a spring draft attachment a metallic whiffletree provided with the central chamber C, having the longitudinal slot O in the horizontal wall thereof, and also with the hollow arms *a a*, the brackets *b b b b*, in combination with the two coil-springs S S, the anchor-plate P, the plate M provided with the slot O′, firmly attached by the lugs *l l l l* to the brackets *b b b b* respectively, the hammer-strap H attached to the pole of the wagon, and the whiffletree-bolt B, all arranged substantially as and for the purposes above set forth.

15. In a spring draft attachment a metallic whiffletree provided with the central chamber C, having the longitudinal slot O in the horizontal wall thereof, and also with the hollow arms *a a* and the brackets *b b b b*, in combination with the coil-springs S S, inclosing the rods R R, the anchor-plate P, the plate M, provided with the perforated lugs *l l l l* and which plate is firmly attached to the brackets *b b b b*, thus forming the other horizontal wall of chamber C, the hammer-strap H firmly attached to the pole of the wagon, and the whiffletree-bolt B passing down through the forward end of the hammer-strap H, through the forward end of the slot O, through the aperture *q* in the anchor-plate P, between the coil-springs S S and thence through the forward end of the slot O′ into the pole of the wagon, all arranged substantially as and for the purposes above set forth.

16. In a spring draft attachment for vehicles, a hollow metallic whiffletree provided with a central transverse box or casing cast integral with the whiffletree, and having central longitudinal slots in its upper and lower sides to accommodate the hammer-bolt to be inserted through same, and through the tongue of the vehicle, and apertures in its end walls designed to receive longitudinal rods extending through the center of coil-springs confined within the chambers, in combination with the anchor-plate P confined within the forward end of the casing and held rigidly in place on the tongue by the hammer-bolt, the hammer-bolt, the hammer-strap and the spiral springs surrounding the longitudinal rods R and having their front ends resting in the hoods of the anchor-plate, all arranged as and for the purpose described.

17. As an improvement in spring draft attachments, an integral metallic whiffletree consisting of the central chamber C having the elongated slot O in its upper side, the plate M adapted to be bolted to and inclose its lower or open side, provided with the central longitudinal slot O′, lateral arms *a*, *a*, joined to the central portion or chamber, perforated brackets *b*, *b*, at the point of junction, rods R, R, extending through the chamber C, and spiral springs S, S, inclosing the rods R, R, within the chamber, all arranged and combined substantially as and for the purpose described.

18. In a spring draft attachment constructed as described, the combination with a hollow metallic whiffletree cast integral and provided with the central longitudinal chamber C as shown, the anchor-plate P provided at one end with the perforated hoods D, and at the opposite end with vertical opening *q* to receive the evener-bolt, constructed substantially as and for the purpose set forth.

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