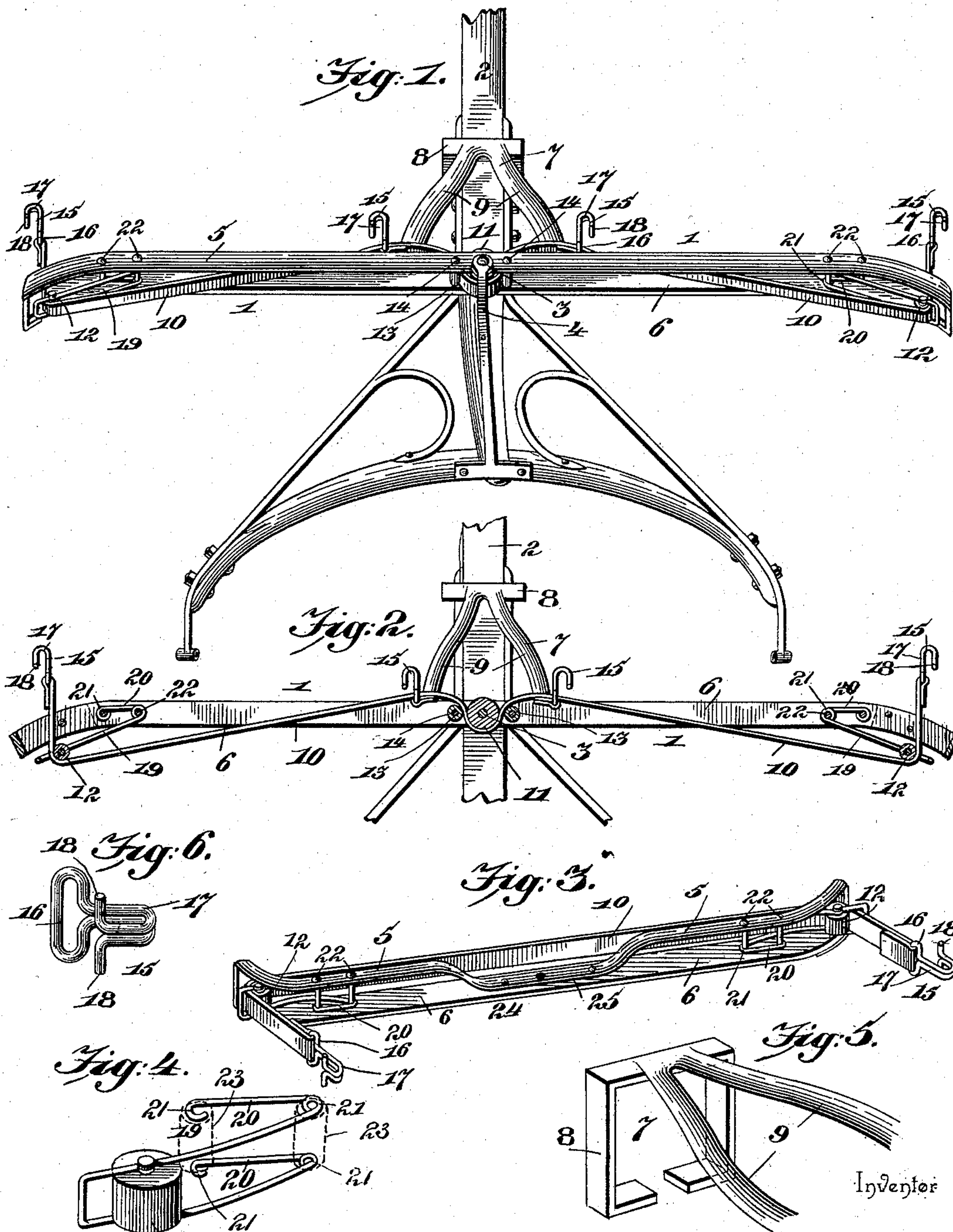


(No Model.)

C. A. GAYLORD.  
WHIFFLETREE.

No. 585,745.

Patented July 6, 1897.



Witnesses 12

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# UNITED STATES PATENT OFFICE.

CHANCY A. GAYLORD, OF BASSETT, IOWA.

## WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 585,745, dated July 6, 1897.

Application filed November 30, 1896. Serial No. 613,962. (No model.)

*To all whom it may concern:*

Be it known that I, CHANCY A. GAYLORD, a citizen of the United States, residing at Bassett, in the county of Chickasaw and State of Iowa, have invented a new and useful Whiffletree, of which the following is a specification.

The invention relates to improvements in whiffletrees.

The object of the present invention is to improve the construction of whiffletrees, to dispense with singletrees when a doubletree is employed, and to cushion the draft to relieve the draft-animals of strain and jars incident to sudden startings and to the passage of a vehicle over rough roads.

A further object of the invention is to permit a doubletree to have the necessary swinging movement on a tongue or pole and at the same time absolutely prevent the same from coming in contact with the wheels and thereby overcome all liability to accidents from this source.

The invention consists in the novel construction and arrangement of parts, as will be hereinafter fully illustrated, described, and claimed.

Figure 1 is a perspective view of a whiffletree constructed in accordance with this invention and shown applied to a pole. Fig. 2 is a horizontal sectional view of the same. Fig. 3 is a perspective view of a whiffletree adapted to be used in connection with a pair of shafts. Fig. 4 is a detail perspective view of one of the end springs. Fig. 5 is a detail perspective view of the yoke of the whiffletree. Fig. 6 is a detail view of one of the trace-hooks.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

Referring to the drawings, 1 designates a whiffletree designed to operate as a doubletree and connected with a pole 2 by a pivot 3, which is supported in the usual manner by a rearwardly-extending brace or bracket 4, and the whiffletree 1, which may be constructed of any suitable material, consists of upper and lower bars 5 and 6, suitably connected at their terminals and forming a skeleton frame. The upper bar 5, which is slightly curved in cross-section, has its ends bent

downward and extended beneath the lower bar 6 and suitably secured to the same, and the terminals of the whiffletree are curved rearward slightly, as shown.

In order to limit the oscillation or swinging movement of the whiffletree, a forwardly-extending yoke 7 is provided, and consists of a loop 8, loosely embracing the pole, and a pair of rearwardly-diverging arms 9, extending from the center of the upper portion of the loop 8 and connected with the bottom bar 6 of the whiffletree. The loop 8, which is preferably rectangular, is sufficiently larger than the pole to permit the necessary swinging movement of the whiffletree, and it is adapted to be readily slipped on any ordinary pole.

The traces are connected with a draft-strap 10, which passes around a central pulley 11 and end pulleys 12. The central pulley 11 is mounted on the pivot 3 between a pair of spacing-sleeves 13, which are mounted on suitable fastening devices 14, and the draft-strap 10, which is provided at its ends and at points at opposite sides of the central pulley with trace-hooks 15, extends between the central pulley and the spacing-sleeves, which operate as stops to prevent the central draft-hook from passing around the central pulley. The outer hooks receive the outer traces and the inner hooks the inner ones, and each trace-hook is constructed of a single piece of wire or other suitable material centrally bent to form an eye 16 and extended from the eye to form a shank 17. The shank 17 is bent on itself to form a hook, and the terminals of the wire are bent laterally to provide lugs 18, which form stops to prevent trace from slipping off the hook. The sides of the shank 17 of the hook are rigid and contiguous throughout their entire length from the eye 16 to the arms or lugs 18. The draft-strap, which is capable of a limited longitudinal sliding movement on the pulleys to equalize the draft, is provided at its ends and at opposite sides of its center with loops, into which the eyes or loops of the trace-hooks are linked.

The end pulleys, which are yieldingly mounted to relieve the draft-animals of strains and jars incident to sudden startings of a vehicle or to the passage of the same over a rough road, are carried by end springs



19, which consist of substantially U-shaped loops slightly curved, as clearly shown in Fig. 4, and upper and lower arms 20, extending from the sides of the loops, disposed longitudinally of the whiffletree and provided at their terminals with eyes 21. The eyes 21, which are formed by coiling the arms, are arranged on fastening devices 22 and preferably separated by sleeves 23. The arms 20 are arranged on the inner faces of the upper and lower bars of the whiffletree and are retained in position by the said sleeves 23. The sides of the curved loop are provided between their ends with eyes receiving the pivot on which the end pulley is mounted, and the draft-strap extends forward from the end pulley between the same and the end of the loop. By curving the terminals of the whiffletree, as shown, the ends of the whiffletree are open and the spring is permitted sufficient play to take up the strain.

In Fig. 3 of the accompanying drawings is shown a whiffletree 24, which is designed to take the place of the singletree usually employed in connection with a pair of thills, and it is constructed substantially the same as the whiffletree 1, with the exception that the central pulley and the adjacent sleeves are omitted, and to strengthen the parts the central portion 25 of the upper bar is depressed and arranged on the upper face of the lower bar, to which it is secured. The operation of the draft-strap in this form of the invention is substantially the same as that in the doubletree. The draft is equalized and cushioned by the springs to prevent strains and jars being communicated to the draft-animal.

It will be seen that the whiffletree is simple, inexpensive, strong, and durable, that its swinging or oscillation is limited to prevent it from coming into contact with the wheels of a vehicle and avoid accidents resulting from such contact, and that the draft is equalized and cushioned to prevent the jolts of a vehicle and the strains incident to sudden startings of the same from being communicated to the shoulders of the draft-animal. It will also be apparent that the pole of a vehicle cannot drop while any two of the traces are secured to the draft-strap.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. The combination of a whiffletree, central and end pulleys mounted on the whiffletree, a single continuous draft-strap extending from one end of the whiffletree to the other, passing around said pulleys and having its ends free and extending forward from the ends of the whiffletree and provided with

outer trace-hooks, and the inner trace-hooks located at opposite sides of the central pulley and forming stops to limit the longitudinal movement of the draft-strap, substantially as described.

2. The combination of a whiffletree, springs mounted on the ends of the whiffletree and consisting of substantially U-shaped loops extending longitudinally of the whiffletree, pulleys mounted within the loops, and a continuous draft-strap passing around the pulleys, capable of longitudinal movement and cushioned by the said springs, substantially as described.

3. The combination of a whiffletree composed of upper and lower bars forming an opening, of end springs arranged between the upper and lower bars and consisting of substantially U-shaped loops and arms arranged adjacent to the inner face of the upper and lower bars, fastening devices passing through the eyes in the said arms and securing the end springs to the bars, pulleys mounted on the loops of the springs, and a draft-strap arranged on the pulleys, substantially as described.

4. The combination of a whiffletree composed of upper and lower bars, a central pulley mounted between the same, sleeves located at opposite sides of the pulley and arranged between the said bars, end pulleys, a single continuous strap extending from one end of the whiffletree to the other arranged on said pulleys and having its central portion passing between the central pulley and said sleeves, and trace-engaging devices located at the ends of the strap and at points at opposite sides of the central pulley, the latter devices forming stops to limit the longitudinal movement of the strap substantially as described.

5. In a whiffletree, a trace-hook constructed of a single piece of metal doubled to form an eye and extended from the eye to form a shank, the sides of the shank being rigid and contiguous throughout their entire length and having their terminals bent at right angles and forming laterally-extending arms projecting from opposite sides of the shank and serving as stops to engage a trace and retain the shank in the eye thereof, substantially as described.

6. The combination of a whiffletree composed of upper and lower bars forming a skeleton frame, springs arranged within the frame between the upper and lower bars and carrying pulleys, and a draft-strap passing around the pulleys, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHANCY A. GAYLORD.

Witnesses:

H. RATHLES,

I. D. DILLENBECK.