

No. 614,220.

Patented Nov. 15, 1898.

W. E. CARVER.
WHIFFLETREE.

(Application filed May 29, 1897.)

(No Model.)

FIG. 1.

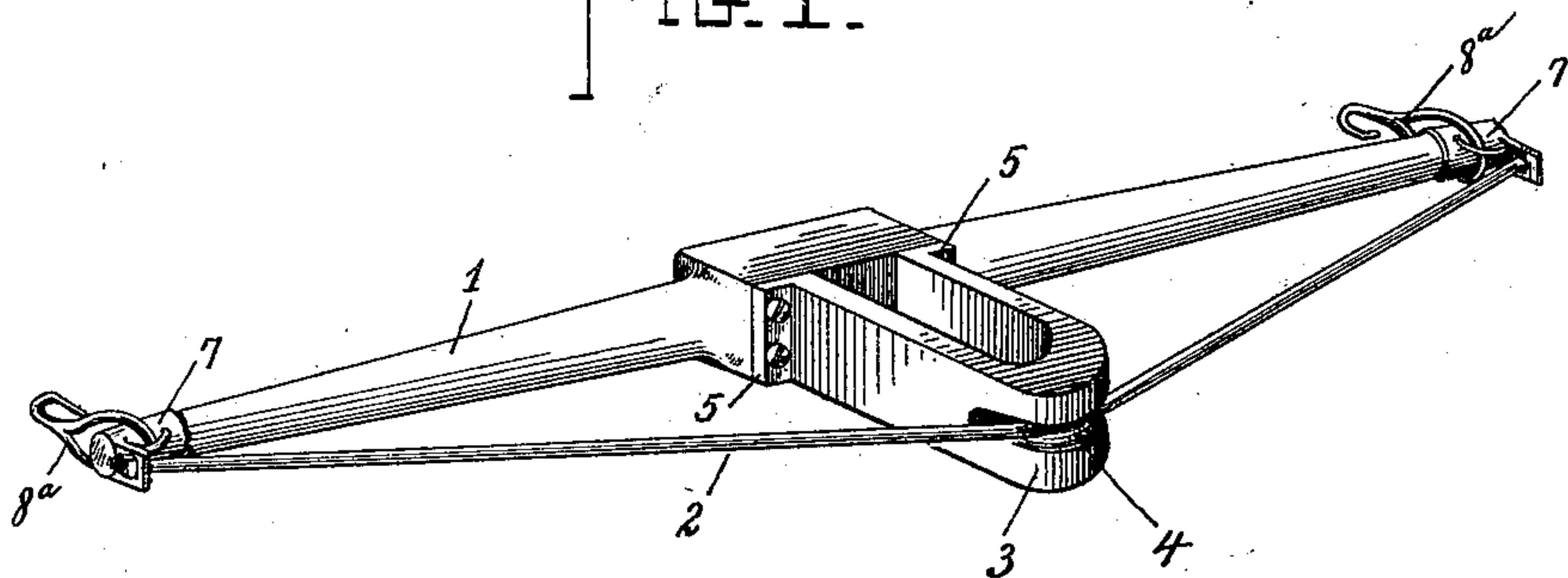


FIG. 2.

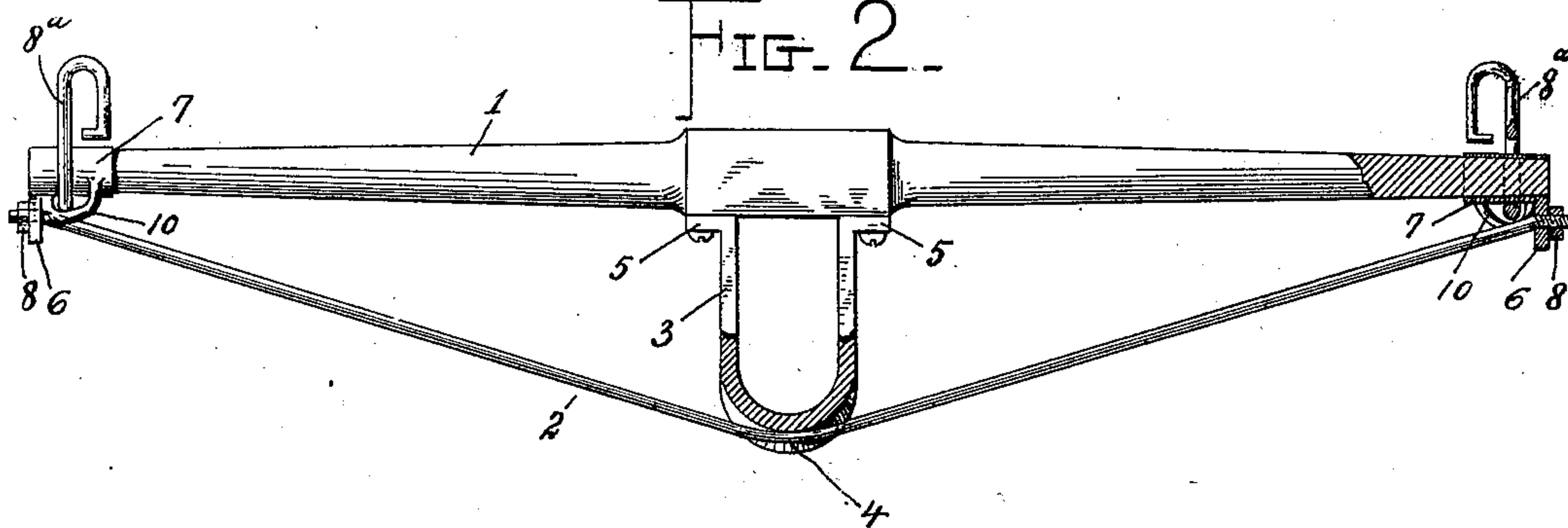
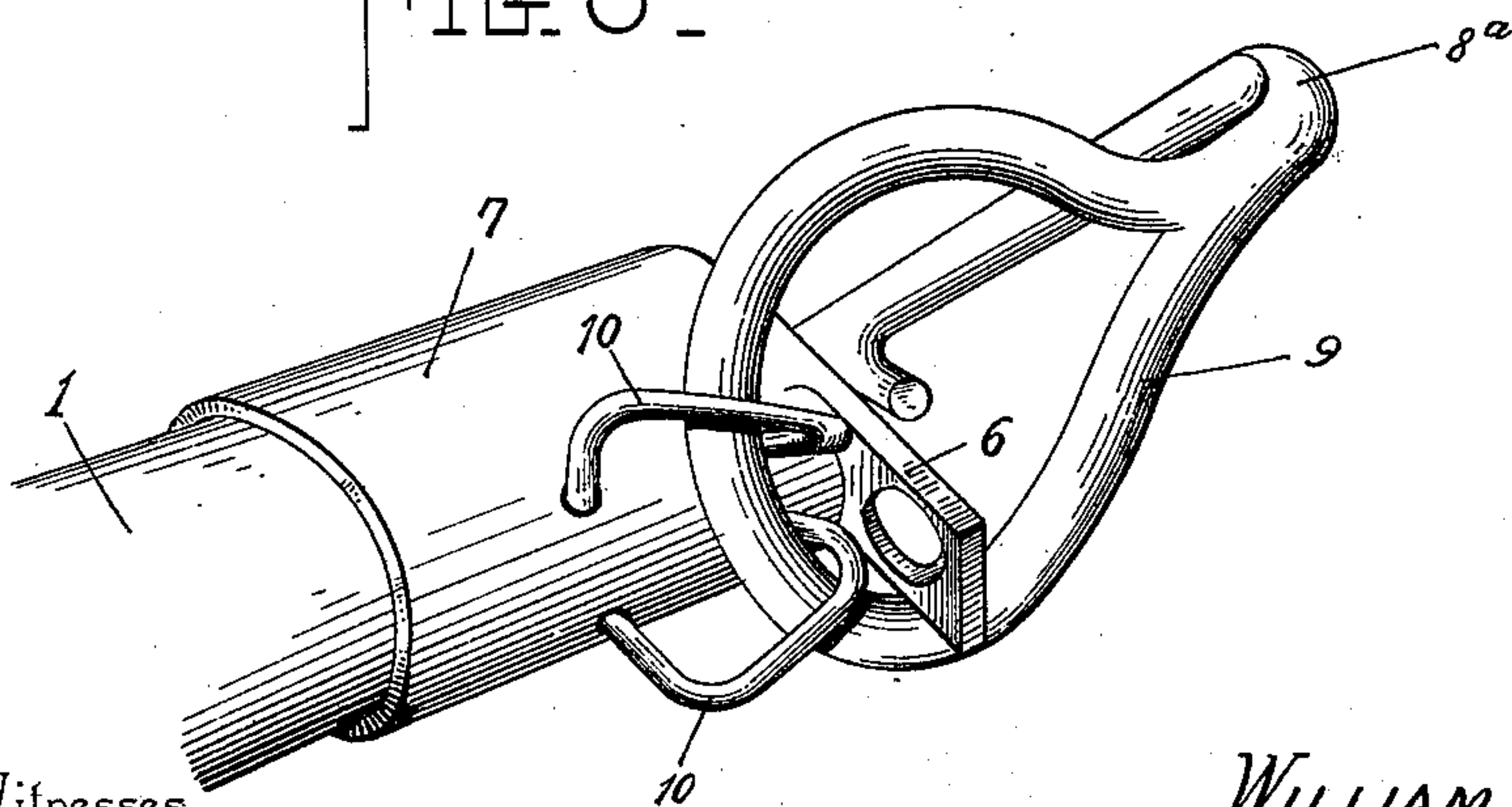


FIG. 3.



Inventor

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UNITED STATES PATENT OFFICE.

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WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 614,220, dated November 15, 1898.

Application filed May 29, 1897. Serial No. 638,746. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. CARVER, a citizen of the United States, residing at Castle Rock, in the county of Douglas and State of Colorado, have invented a new and useful Whiffletree, of which the following is a specification.

My invention relates to improvements in whiffletrees; and the object that I have in view is to provide means for connecting a trace-hook to the whiffletree in a manner to permit the trace-hook to have a limited swinging and sliding movement on the whiffletree for the purpose of attaching or detaching the trace-hook, and said trace-hook-attaching means is also constructed with a view to limiting the swinging movement of the trace-hook to a position where the trace will not become accidentally detached from the said hook.

I am aware that it is old to provide a trace-hook which is loosely fitted in a curved finger of a sleeve which is fastened to one end of the whiffletree, the trace-hook being provided at its free end with a curved beak adapted to receive the trace or chain. In my invention the trace-hook consists of a rounded eye provided with a straight arm that terminates in an inwardly-extending prong adapted to receive and confine the trace or chain of a harness. The rounded eye loosely encircles the thimble, and it is held or confined thereon by loops or keepers which loosely embrace said hook-eye and permit the latter to have a sliding and turning movement on the thimble. The loops or keepers are peculiarly disposed on the thimble to serve as stops in limiting the rearward swinging movement of the trace-hook, and this end is attained by employing two loops or keepers which are arranged in divergent positions with relation to each other and substantially in the direction of the length of the thimble. I have found that a single loop will not serve to limit the rearward swinging movement of the trace-hook, and to attain the object that I have in view it is necessary that a pair of such loops or keepers be employed and that they be arranged in divergent positions relatively to each other in order that the ring of the trace-

hook may bind or bear against the loops or keepers and be limited to a position where the straight arm of the hook is in line with the whiffletree. The rearward swinging movement of the trace-hook being limited by the angular loops or keepers, it is necessary that the trace-hook should be capable of a sliding movement in the keepers and away from the whiffletree and thimble, so that sufficient space or clearance may be obtained between the extremity of the trace-hook arm and the thimble for the insertion or removal of the trace or chain.

The accompanying drawings fully illustrate my invention, in which—

Figure 1 is a perspective view of the whiffletree having my improvements applied thereto. Fig. 2 is a plan view with the brace-truss and one end of the whiffletree partly in section and illustrating the trace-hooks in their normal positions with relation to the whiffletree. Fig. 3 is an enlarged detail perspective view of a part of the whiffletree, the thimble, and the trace-hook, showing the latter swung around to bring its straight arm substantially in line with the whiffletree.

Like numerals of reference denote like and corresponding parts in each of the several figures of the drawings.

In the drawings I have illustrated an ordinary whiffletree 1, which is of a type familiar to those skilled in the art to which this invention relates. The whiffletree is made, preferably, of wood, although it may be made of metal. My improvement consists in the employment of a truss 3 and thimbles 7 in connection with a brace-rod 2. The truss 3 is in the form of an open loop, and one end of the truss is rounded and provided in its curved vertical face with a horizontal groove or channel 4. The other end of the loop-shaped truss is open and the ends of the truss are bent upwardly to form the feet 5, adapted to be applied laterally against one of the vertical faces of the whiffletree, at the center thereof, and said truss is secured firmly in place by means of bolts or screws, which pass through the feet and into the central part of the whiffletree. The truss occupies a horizontal position with relation to the whiffle-

tree, and it extends outwardly therefrom substantially at right angles for a suitable distance. The looped form of the truss serves to receive the means by which the whiffletree
5 may be attached to a doubletree or to the end of a pole when the whiffletree is to be used for a lead-horse.

The thimbles 7 are constructed to fit firmly and tightly over the ends of the whiffletree 1,
10 and each thimble is provided at its outer end with an integral lug or ear 6, which extends substantially at right angles to the thimble and projects from the rear side thereof a suitable distance to receive the end of the brace-
15 rod 2.

In applying the brace-rod to a whiffletree the strut 3 is firmly secured to the central part of the whiffletree and the thimbles 7 are secured to the ends of the whiffletree to have
20 the apertured lugs in line with the channel in the strut. The extremities of the trace-rod are externally threaded and passed through apertures in the lugs 6, while the central part of the brace-rod is fitted in the
25 channel or groove 4 in the curved outer face of the loop-shaped truss. The nuts 8 are screwed on the threaded ends of the brace-rod to bear against the outer faces of the lugs 6, and thus the brace-rod may be strained to
30 thoroughly brace the whiffletree 1 and secure the thimbles 7 to the ends of said whiffletree against accidental detachment.

From the foregoing description it will be seen that my truss-rod may be readily and
35 securely fastened to ordinary whiffletrees for the purpose of thoroughly bracing the same and that it is not necessary to employ a special construction of whiffletree for use in connection with my brace means.

Referring now more particularly to Fig. 3 of the drawings, it will be seen that I have provided a trace-hook 8^a, which is adapted to be confined by the loops or keepers 10 of the thimbles 7 in a manner to swing rearwardly
45 thereon for the purpose of bringing its straight arm in line with the whiffletree, and said loops or keepers serve to limit the rearward movement of the trace-hook and permit its ring or eye 9 to have a limited sliding movement in said keepers. The trace-
50 hook which I prefer to employ consists of a rounded ring or loop 9 of a diameter proper to fit on the metallic thimble 7, and integral with this ring or eye is a straight arm which
55 is parallel to the plane of the ring and has a short lug or strut extending inwardly toward the opening or eye in said ring. I employ a pair of loops or keepers 10, which are rigid with the thimble 7, and said loops or keepers
60 are disposed on the rear side of said thimble. The keepers are necessarily arranged in pairs, because a single keeper will not serve the purpose of limiting the rearward swinging movement of the trace-hook. The keepers
65 forming each pair are disposed on the thimble

substantially in the direction of the length thereof, and said keepers are arranged in divergent positions with relation to each other, the keepers diverging from their points of attachment adjacent to the outer end of the
70 thimble and the whiffletree. In the use of the trace-hook the ring or eye 9 thereof loosely encircles the thimble 7 and the hook stands outwardly from the front side of the whiffletree, so that its terminal prong is close
75 to said whiffletree and prevents the accidental detachment of the trace or chain from the hook, as will be evident from an inspection of Fig. 2. The loose trace-hook is capable of a turning movement as well as a
80 sliding movement in the keepers and on the thimble, and said hook is also adapted to have a rearward swinging movement when it is desired to detach the trace or chain from the hook. This rearward swinging movement
85 of the trace-hook is limited to prevent the hook from assuming a position where the trace is likely to become detached accidentally. The strain of the trace normally tends to keep the hook in a position at the divergent
90 ends of the angularly-disposed loops, and with the hook in this position its free end when swung outwardly cannot move to a position far enough away from the end of the thimble to permit the trace to become de-
95 tached, because the loop of the trace-hook abuts at two points against the keepers and at a third point against the thimble and between the divergent loops. To disengage the trace, it is necessary to draw the ring of the
100 hook outwardly toward the adjacent ends of the loops, and this adjustment of the hook permits the latter to be moved to a position where its free extremity is extended farther beyond the thimble and is swung back farther
105 and more in line with the whiffletree; but even in this position the rearward swinging movement of the hook is limited by the loops, so that the loops serve under all conditions to arrest the hook. When the hook is in the
110 last-described position—i. e., at the outer adjacent ends of the loops, so as to be projected beyond and at a slight angle to the thimble—the trace may be readily detached by hand.

It is thought that the operation and advantages of my improvement will be readily understood from the foregoing description taken in connection with the drawings.

Having thus described the invention, what I claim is—

The combination with a whiffletree-thimble, of the pair of stop-loops rigidly united to the thimble on the rear side thereof and arranged in divergent positions so as to lie close together at the outer end of the thimble and be
120 spread apart near the inner end of the thimble, and a trace-hook having a ring adapted to loosely embrace the thimble and fitted loosely in the divergent loops to swing therein and to slide lengthwise thereof, said trace-
125

hook adapted to be limited in its rearward
movement by impinging at two points against
the loops and also against the thimble, and
said rearward movement of the trace varying
5 according as it fits in the inner or outer ends
of said loops, 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.

W. E. CARVER.

Witnesses:

JOHN H. SIGGERS,
ROBERT E. CRUMP.