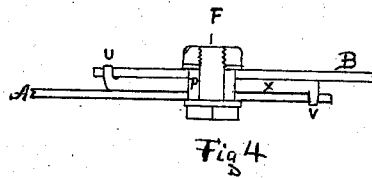
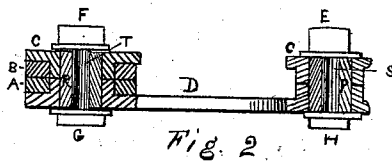
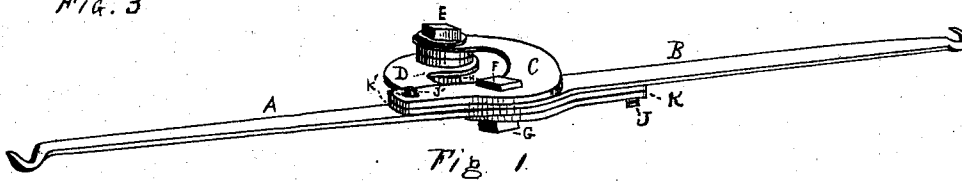
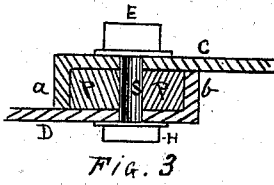


E. C. GORDON.
Whimtrees.

No. 150,412.

Patented May 5, 1874.



Witnesses
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UNITED STATES PATENT OFFICE.

EARL C. GORDON, OF SALEM, NEW HAMPSHIRE.

IMPROVEMENT IN WHIFFLETREES.

Specification forming part of Letters Patent No. **150,412**, dated May 5, 1874; application filed March 20, 1874.

To all whom it may concern:

Be it known that I, EARL C. GORDON, of Salem, in the county of Rockingham, State of New Hampshire, have invented a certain new and useful Improvement in Whiffletrees, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is an isometrical perspective view of my improved whiffletree. Fig. 2 is a vertical section of the same, taken through the bolts E F, Fig. 1, and Figs. 3 and 4 are vertical sections, showing alternate methods of construction.

Like letters refer to like parts in the different figures of the drawing.

My invention relates more especially to that class of whiffletrees which are designed for use in drawing heavy loads; and consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed; the object being to relieve the horse or team from the strain caused in overcoming the inertia in starting, or by the carriage striking an obstruction.

The extreme simplicity of my invention renders an elaborate description unnecessary.

In Fig. 1, A B are the arms or long levers of the whiffletree, having a common pivot or center of motion on the transient bolt F, which is provided with the nut G. The long arm A is extended beyond the bolt F, to form the short lever or arm K, the long arm B being extended in a like manner at K'. Pivoted upon the bolt F are also two curved levers, C D, one end of the lever C being attached to the stud J', projecting upwardly from the short arm of the lever B, and one end of the lever D being attached to the stud J, projecting downwardly from the short arm of the lever A, the opposite ends of both levers C D being secured together by the bolt E. Around the body S of the bolt E, Fig. 2, and within a socket formed in the

ends of the levers C D, there is a tubular rubber cushion or spring, P, which is kept in position by the nut H on the lower end of the bolt. The levers C D are of steel, spring-tempered.

From the foregoing the nature and operation of my invention will be readily understood by all conversant with such matters.

The whiffletree being attached to the carriage by the bolt E or F, it will be seen that when, to draw the load, power is applied to the long arms of the levers A B, the short arms K K' will be moved in the opposite direction, causing the outer ends of the curved spring-levers C D to yield slightly, and also separate or be drawn apart, thus compressing the rubber spring P, and taking up and relieving the strain of starting, in a manner which will be readily obvious.

The levers C D may be of a different form from that shown, to render them adapted to carriages of varied construction; and, instead of the single bolt E, a bolt for each lever may be used, when necessary; or steel springs be substituted for the rubber, and effect the same result.

For the lighter forms of carriages, I use a single spring-lever, *x*, as shown in Fig. 4, pivoted on the bolt F, and connected with the short arms of the levers A B by the studs *u v*, the bolt being provided with a rubber packing, P.

I also sometimes construct the ends of the levers C D with the overlapping hooks *a b* turned in opposite directions, as shown in Fig. 3, the rubber cushion P P being disposed on the bolt S in the same manner, as shown in Fig. 2.

The levers C D may also be made rigid without departing from the spirit of my invention.

On the 9th day of July, 1872, Letters Patent of the United States, No. 128,723, were issued to me for an improvement in whiffletrees, in which a whiffletree composed of a system of levers is shown and described; but the same is essentially different from my present invention.

I therefore do not herein claim anything already secured to me by said Letters Patent, or anything shown or described therein, and not so secured, when in and of itself considered; but

Having thus described the invention, what I claim is—

The whiffletree, consisting of the long le-

vers A B, short levers K K', curved levers C D, rubber cushion P, and bolts E F, combined to operate substantially as and for the purpose specified.

EARL C. GORDON.

Witnesses:

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H. E. METCALF.