

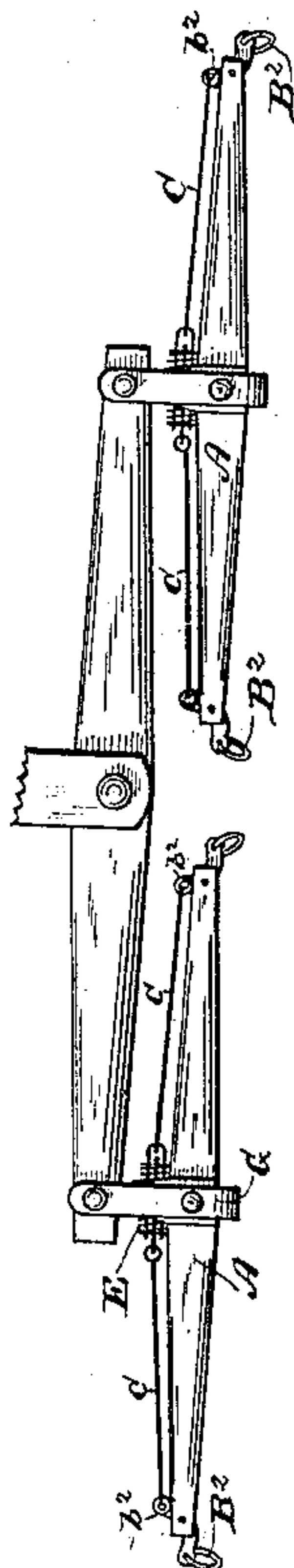
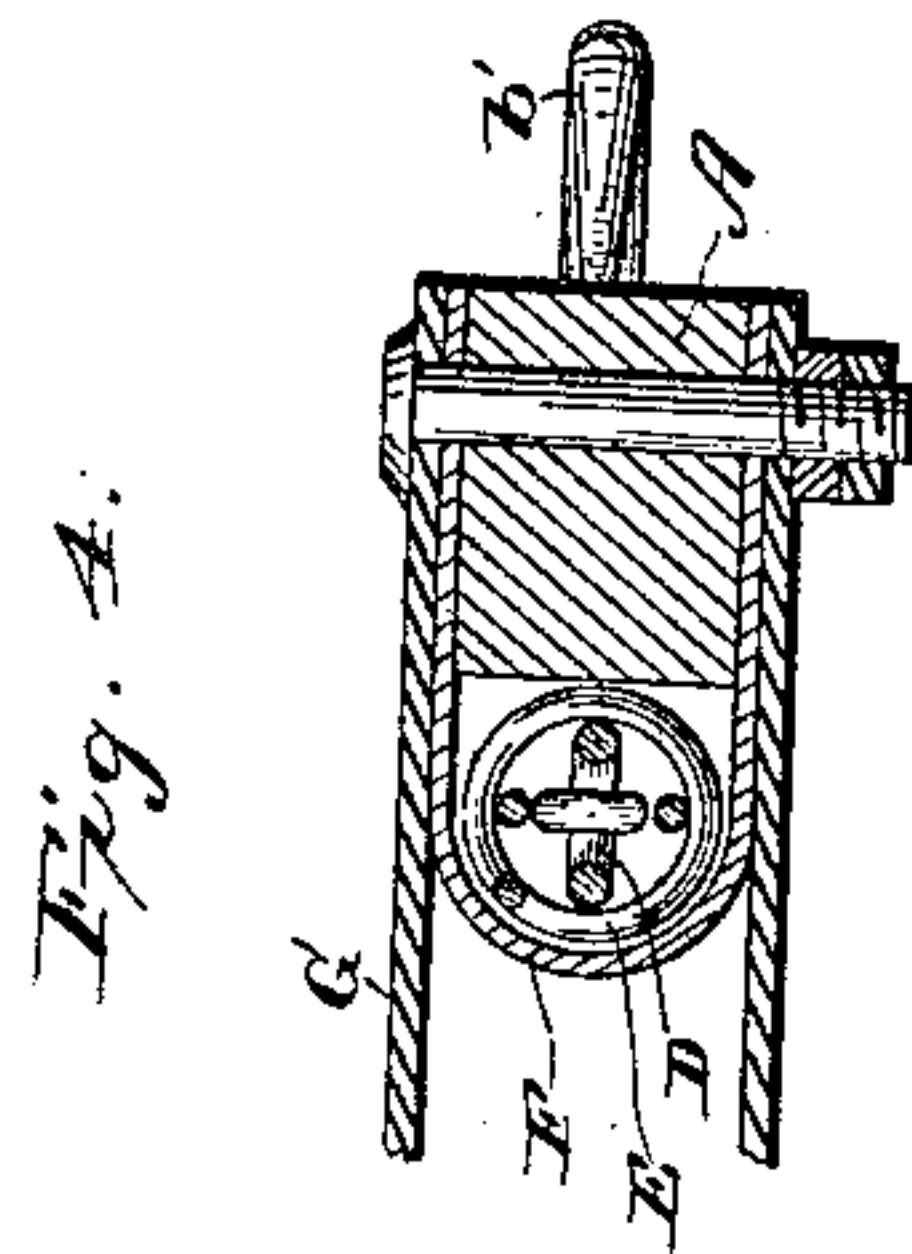
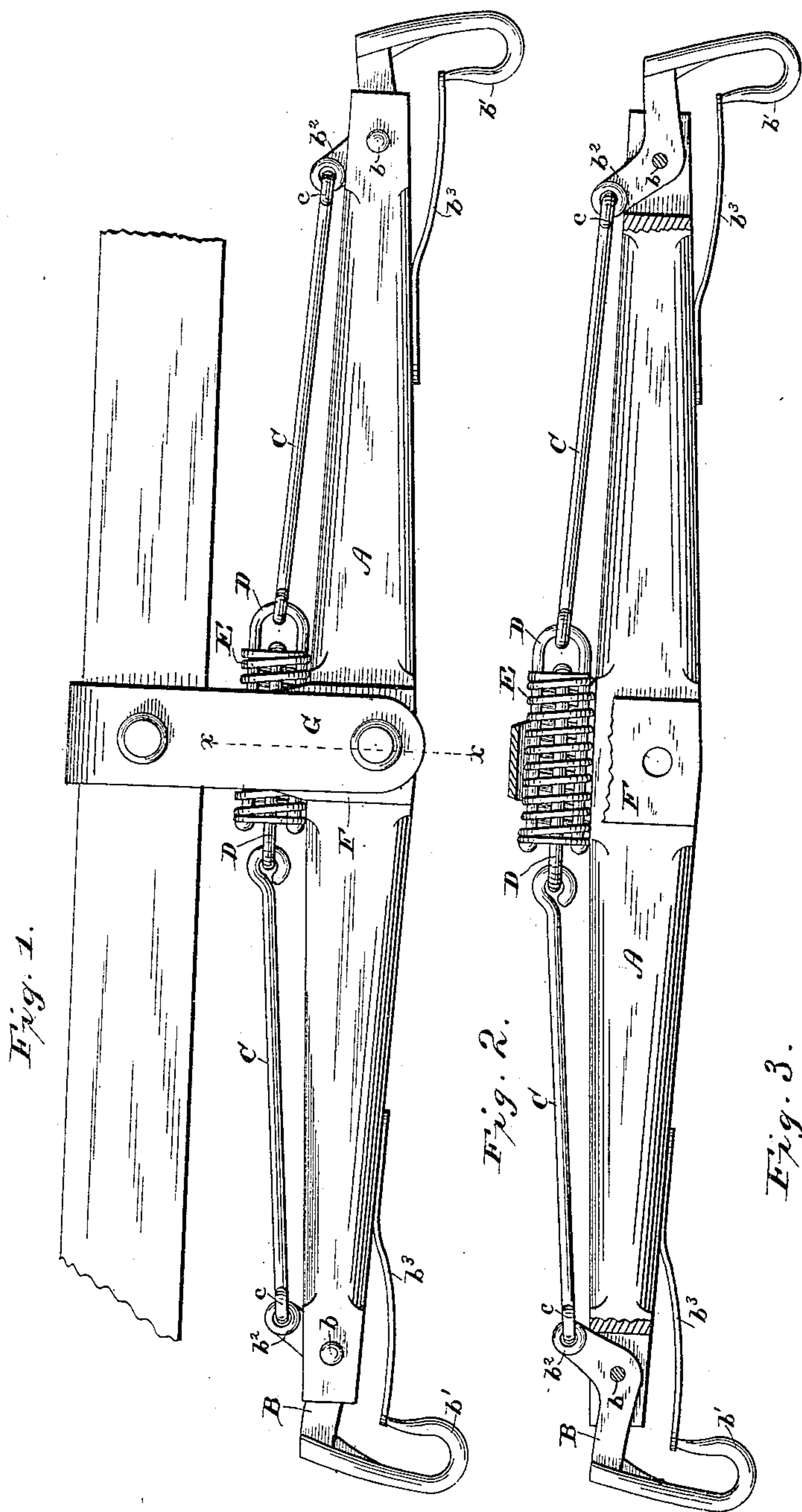
(No Model.)

J. D. MILLER.

WHIFFLETREE.

No. 362,769.

Patented May 10, 1887.



Witnesses.
James M. Durant.
C. Stewart.

Inventor,
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UNITED STATES PATENT OFFICE.

JOHN D. MILLER, OF ANACOSTIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF TWO-THIRDS TO JOHN H. MITCHELL AND N. BUNCH, BOTH OF WASHINGTON, DISTRICT OF COLUMBIA.

WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 362,769, dated May 10, 1887.

Application filed February 3, 1887. Serial No. 226,401. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. MILLER, of Anacostia, in the District of Columbia, 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 same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to single and double whiffletrees, wherein by the use of a spring and connecting mechanism the strain on the horse or horses is lessened or eased up as the vehicle is started, and also when the vehicle is being pulled uphill or heavily loaded.

Referring to the accompanying drawings, Figure 1 is a plan view of my improved whiffletree applied to the shaft of an ordinary wagon. Fig. 2 is a plan view of a whiffletree with parts broken away to show its construction. Fig. 3 is a view showing my invention applied to a double-tree. Fig. 4 is a section on line $x x$, Fig. 1.

Similar letters of reference in the several figures indicate the same parts.

The letter A indicates a whiffletree of ordinary construction, except that the ends (which usually have ferrules and hooks) are grooved out or slotted, so as to receive a bell-crank lever, B, which is secured to said end so as to work freely on a pivot, b ; or the ends of the whiffletree may be provided with ferrules adapted to accommodate the lever B. One end of this bell-crank lever terminates in a hook, b' , to which the traces or tugs are to be secured, as usual. The other end, b^2 , is formed into an eye to receive the end c of a rod or link, C, which is in turn attached to what I term a "compression-link," D.

It will of course be understood that the parts just above described are to be duplicated on each end of the whiffletree, and will meet in the center of the rear side of the whiffletree in a spring, E. This spring E can be of any construction or material suited to the purpose—such, for instance, as a rubber or spiral spring. I prefer to show in this instance a spiral spring, as that is the kind I shall prob-

ably use. This spring is so constructed that the pull from the ends of the whiffletree will cause it to be compressed, and it will therefore retain its elasticity much more effectively than if it were pulled apart.

The spring E is partially inclosed in a casing, F, which protects it from injury in any way. Surrounding this casing F is the usual clip, G, which secures the whiffletree to the vehicle.

It will be seen that the spring E is so situated that the pull upon the ends of the whiffletree is equal, and one end cannot by any possibility be of a different degree of elasticity from the other, as might be the case were more than one spring used.

The hooks at the ends of the whiffletree are so constructed as that, no matter what strain is put upon them, the flat spring b^3 will be always in contact with the ends of the same, and thereby prevent the traces or tugs from becoming detached.

When my invention is applied to a double-tree, I use a ring, B^2 , instead of the hook b' , in which case there is no necessity for using the flat spring b^3 .

It will readily be seen that my invention is simple, compact, and strong, and not at all liable to get out of order.

What I claim is—

1. The combination, with a whiffletree, of a spring, a link, and a pivoted hook for receiving the end of the trace, and a flat spring pressing against the ends of the pivoted hook even during the movements of the latter, whereby the trace is prevented from becoming detached, substantially as described.

2. The combination, with a whiffletree, of a spring, a case partially inclosing said spring, a link connecting said spring with a bell-crank lever pivoted in the end of the whiffletree, on one end of which is a hook for receiving the trace, and a flat spring pressing against the end of said hook for preventing the trace from becoming detached, substantially as described.

3. The combination, with a whiffletree, of the bell-crank levers pivoted to the ends thereof and having hooks, a centrally-located

spring, and means for connecting the said spring to the bell-cranks, substantially as described.

4. The combination, with a whiffletree, of
5 bell-crank levers pivoted to the ends thereof and having hooks, a centrally-located spring having compression-links, and means for con-

necting the same to the bell-cranks, substantially as described.

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Witnesses:

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