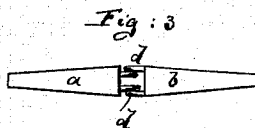
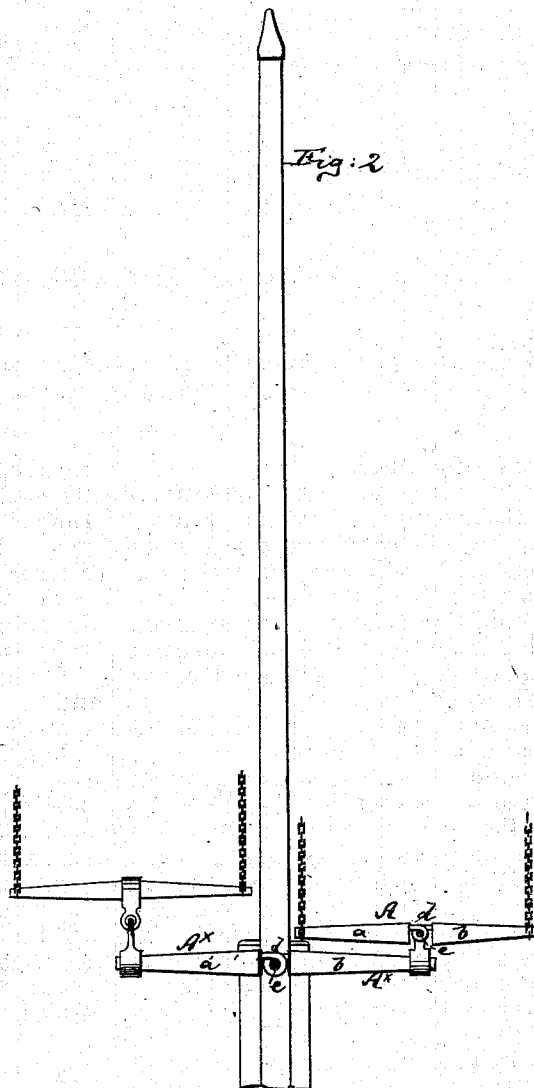
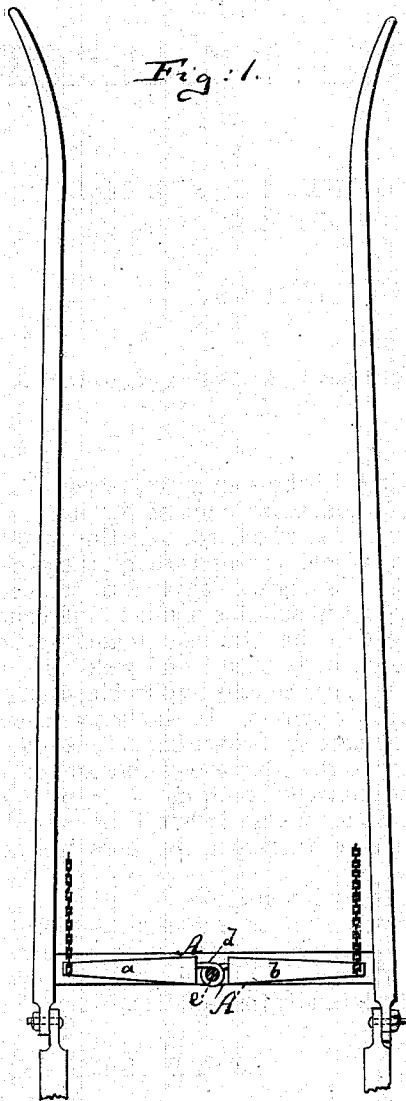


A. ASSMANN.
 SPRING WHIFFLETREE.

No. 186,405.

Patented Jan. 23, 1877.



Witnesses:

J. C. Tunbridge.
Ernest F. Webb

Inventor:

Albert Assmann.
 By his attorney
A. J. Briesen

UNITED STATES PATENT OFFICE

ALBERT ASSMANN, OF LINDEN, ASSIGNOR TO HIMSELF AND MARTIN H. VOLKMANN, OF RAHWAY, NEW JERSEY.

IMPROVEMENT IN SPRING-WHIFFLETREES.

Specification forming part of Letters Patent No. **186,405**, dated January 23, 1877; application filed December 12, 1876.

To all whom it may concern:

Be it known that I, ALBERT ASSMANN, of Linden, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Whiffletrees, of which the following is a specification:

Figures 1 and 2 are plan views of my invention, showing it applied to one and two horse vehicles respectively. Fig. 3 is an edge view of one of the whiffletrees.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to an improvement in whiffletrees and evener-bars; and consists in making the same in two pieces, with a coiled spring interposed as a central connecting piece and support. This interposed spring renders the whiffletree or evener-bar elastic, and facilitates the starting of vehicles. It also enables me to construct the whiffletree or bar of shorter and less expensive pieces of wood than when the same is made of one continuous length.

A in the drawing represents my improved whiffletree. (Shown in Fig. 1 to be applied to a one-horse vehicle.) It consists of two end pieces, *a* and *b*, of wood, and of a central

coiled spring, *d*, whose ends are, respectively, fastened to the inner ends of the bars *a* *b*. The pin or bolt *e*, which secures this whiffletree to the vehicle, passes through the eye of the coil *d*. The draft, if applied to the ends of the bars *a* *b* in suitable manner, will cause the spring *d* to be strained, rendering the whiffletree virtually elastic and yielding.

The invention is equally applicable to single and two-horse vehicles. In the latter case it may be applied to the evener-bar *A*^x, as shown in Fig. 2, or to the whiffletrees thereon, or to both. The connecting-spring *d* I prefer to make double, as in Fig. 3; but it may also be made single or in larger numbers in each whiffletree.

I claim as my invention—

A whiffletree composed of the end pieces *a* *b* and middle piece *e*, the piece *e* being a spring by which the two end pieces *a* and *b* are connected, substantially as herein shown and described.

ALBERT ASSMANN.

Witnesses:

A. V. BRIESEN,
F. V. BRIESEN.