

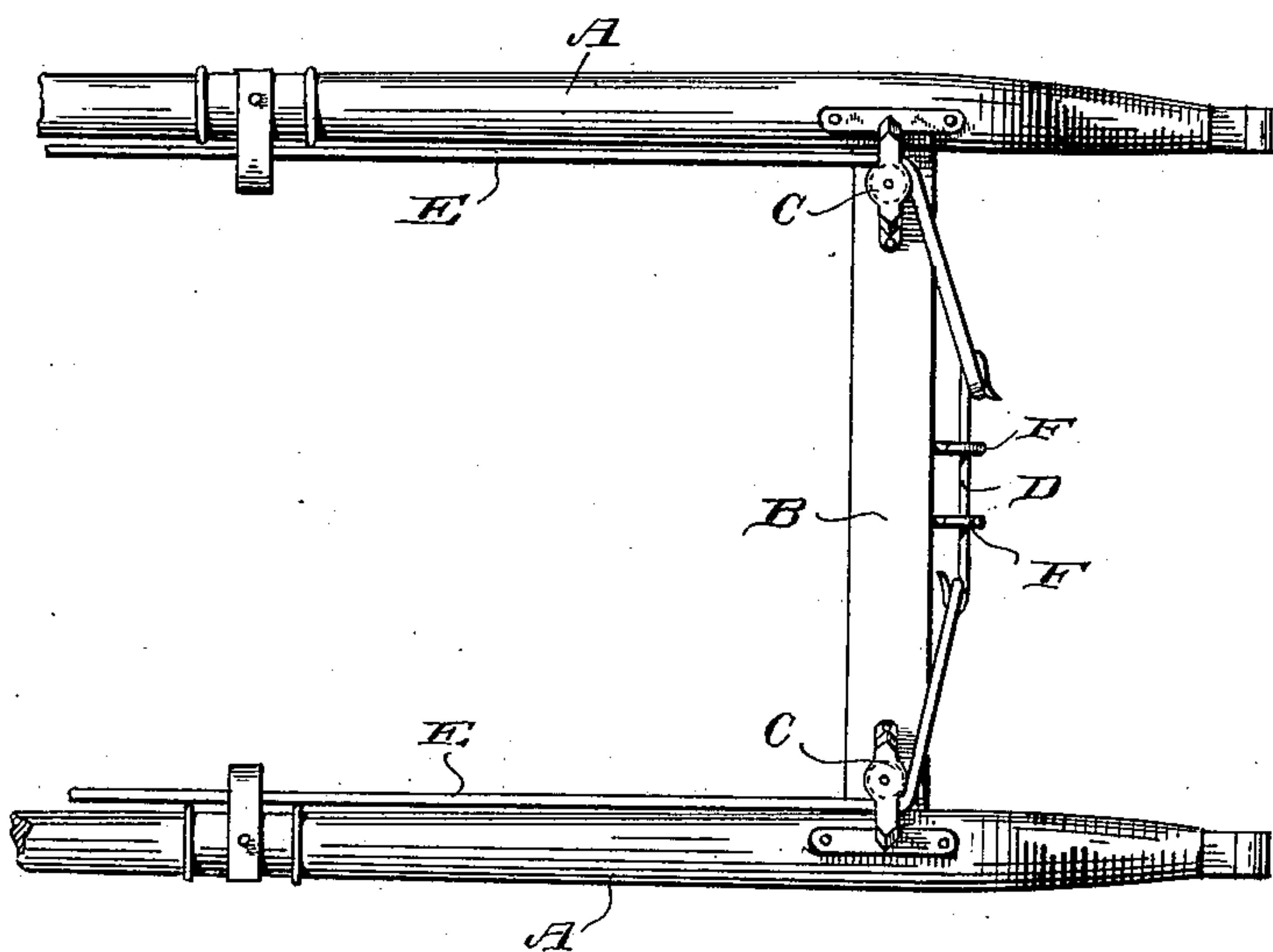
(No Model.)

E. C. L. KUNNECKE.  
TRACE GUIDE AND FASTENER.

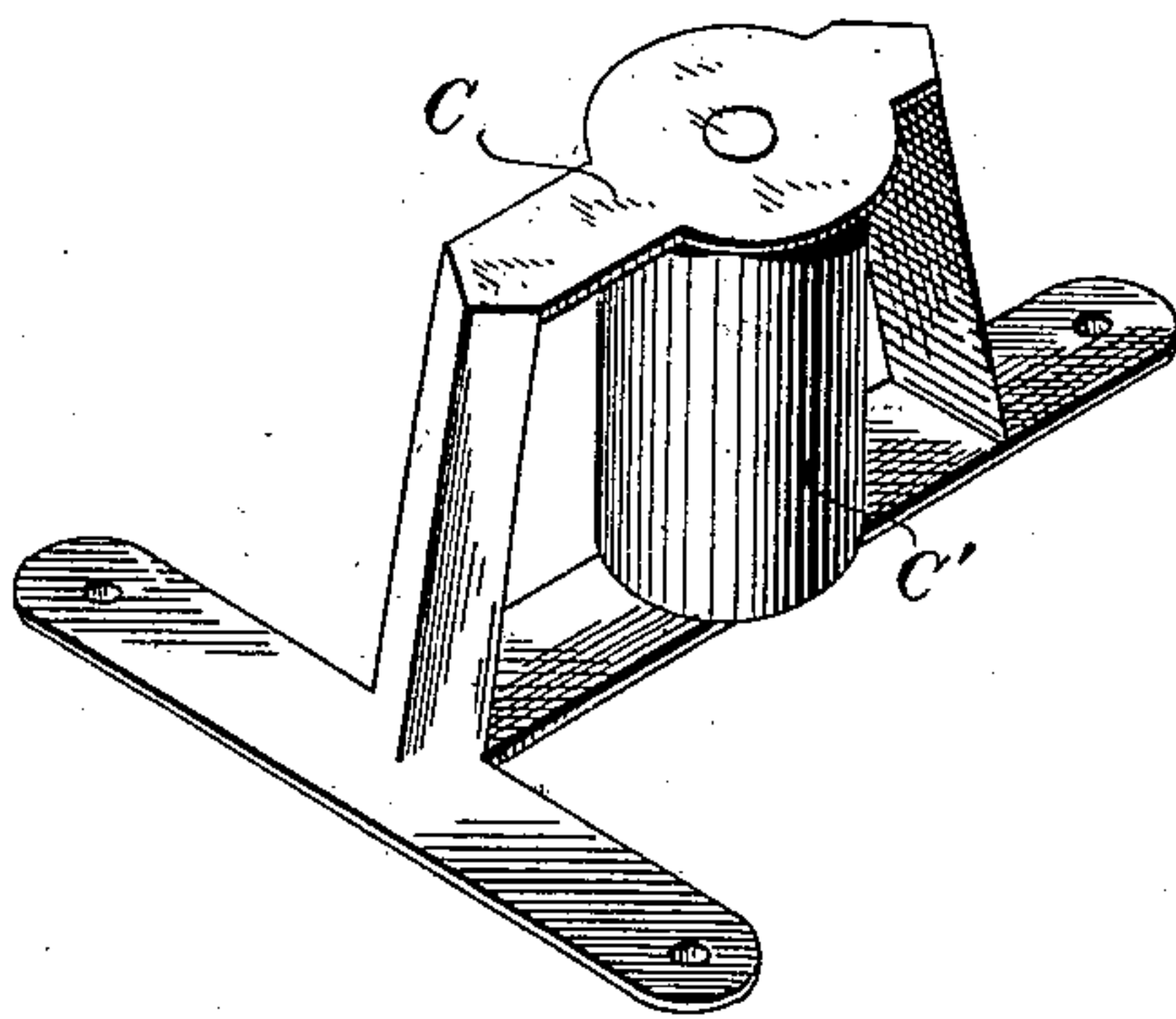
No. 333,136.

Patented Dec. 29, 1885.

*Fig. 1.*



*Fig. 2.*



Witnesses:

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Inventor:

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# UNITED STATES PATENT OFFICE.

ERNST CHARLES LOUIS KUNNECKE, OF DAYTON, OHIO.

## TRACE GUIDE AND FASTENER.

SPECIFICATION forming part of Letters Patent No. 333,136, dated December 29, 1885.

Application filed September 15, 1885. Serial No. 177,197. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST CHARLES LOUIS KUNNECKE, a citizen of the United States, residing at the city of Dayton, county of Montgomery, and State of Ohio, have invented certain new and useful Improvements in Trace Guides and Fasteners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in a trace guide and fastener in which the ordinary leather or chain traces of draft-animals are made to pass around loose cylinders or sheaves attached to the shaft-frame of any vehicle, and are hooked to a rod held in position by eyebolts secured to the cross-bars of the shafts and working loose therein.

The objects of my invention are to do away with the customary single-tree, and to provide in its stead a perfectly safe and adjustable trace-fastener, and accommodating itself to the walking or running motion of the draft-animal. In ordinary single-trees the power applied to the center bar or cross-piece of the shafts has a tendency to pull out or split the same. In my device the pulling force is distributed, and the frame of the sheaves has a tendency to brace the shafts and cross-bar, and is therefore more desirable. I attain these objects by the mechanism shown by the accompanying drawings, in which—

Figure I represents a plan view of my improvement. Fig. II represents a perspective view of the cylinder around which the traces pass.

Similar letters refer to similar parts throughout the several views.

A A represent the shafts of any ordinary wagon.

B is the cross-bar to which single-trees are usually fastened.

C C are T-shaped frames, fastened to the shaft at the juncture of the cross-bar B with shafts A, and thus serving as braces for the cross-bar and shafts. They are provided with rotary sheaves C' on a perpendicular axis, around which traces E E pass, and change the direction of the action.

D is a rod, hooked at both ends to receive traces E E, and suspended loosely in the eyes of bolts F F. It will be seen that the force applied in pulling the traces itself prevents either traces or rod from unhooking.

E E are traces of the ordinary kind, to be attached at one end to the hames and at the other end to rod D, which, by its lateral play and the rolling motion of the traces on cylinders C' C', allows the traces to accommodate themselves to the motion of the draft-animal.

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

The combination, with the shafts A and cross-bar B, of the T-shaped frames C and their sheaves C', the traces E, held in position by said frames and extending to a hooked laterally-shifting whiffletree, D, the said whiffletree and the eyebolts F supporting the latter and attached to the cross-bar, as set forth.

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Witnesses:

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