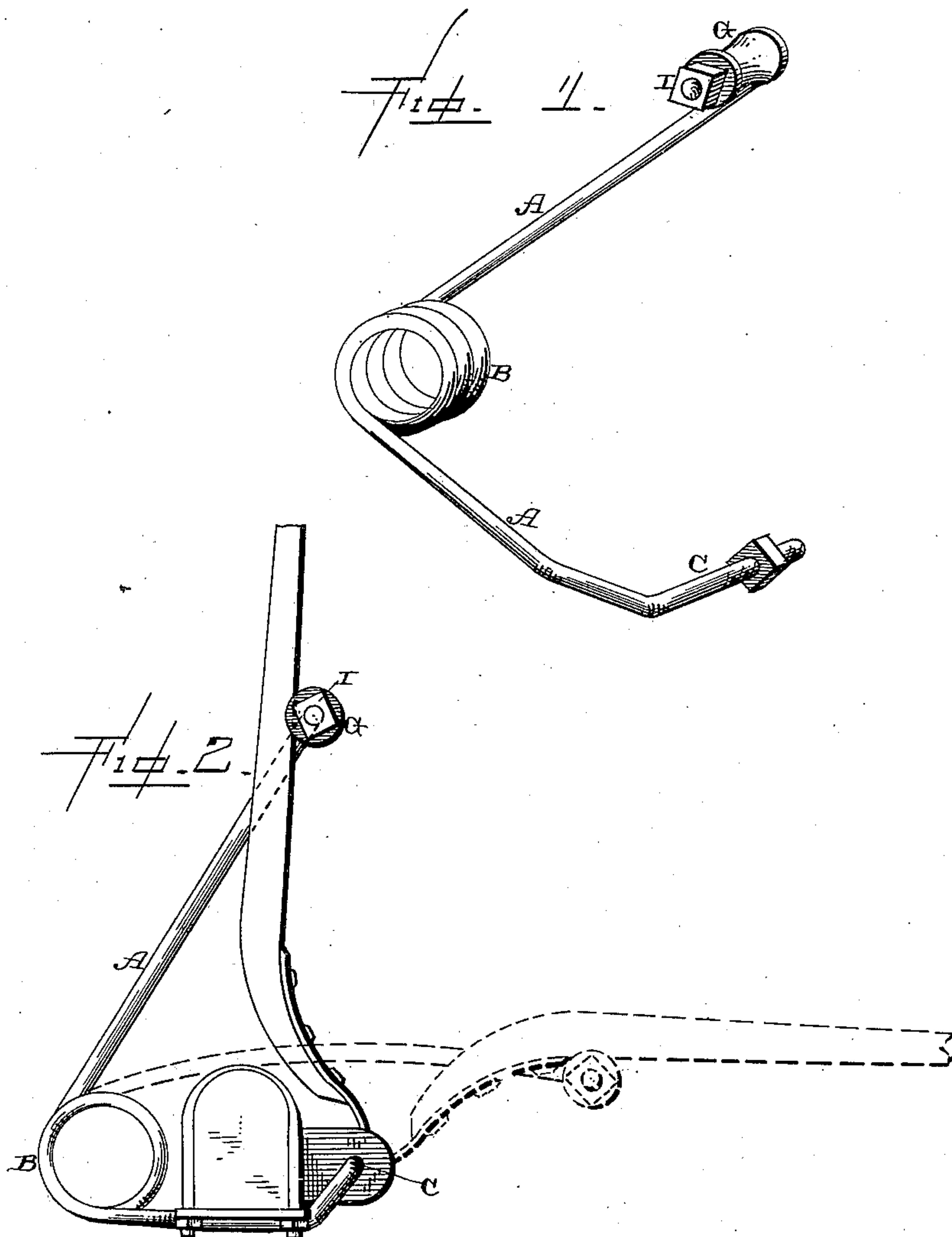


(No Model.)

C. P. TENER.  
SHAFT SUPPORT.

No. 376,017.

Patented Jan. 3, 1888.



Witnesses.  
R. J. Gardner  
Edm. P. Ellis.

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per J. A. Lehmann,  
att'y

# UNITED STATES PATENT OFFICE.

COMMODORE P. TENER, OF HILLSBOROUGH, OHIO.

## SHAFT-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 376,017, dated January 3, 1888.

Application filed September 29, 1887. Serial No. 251,062. (No model.)

*To all whom it may concern:*

Be it known that I, COMMODORE P. TENER, of Hillsborough, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Shaft-Supports; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in shaft-supports; and it consists in, first, a spring, which is attached directly to the clip at one end, and which has its other end to catch under the shaft for the purpose of holding it up; second, a spring for supporting the shaft, made in a single piece with the bolt which connects the shaft-iron to the clip, all of which will be more fully described hereinafter.

The object of my invention is to provide a spring which is preferably made as a part of the bolt which secures the shaft-iron to the clip, and which spring holds the shafts in an elevated position, so as to take their weight off the back of the horse, and to keep them in an elevated position when not in use.

Figure 1 represents a perspective of a combined spring and bolt embodying my invention. Fig. 2 is a side view showing the spring and bolt applied to a shaft.

A represents an elastic metallic rod, which is coiled at B, so as to form a spring, and which has its inner end turned downward and then formed into the screw-threaded bolt C, which passes through the ears upon the clip and the shaft-iron for the purpose of securing the shaft to the axle. By forming this bolt C as a part of the spring the two parts are always put in and removed from position at the same time. From the coil B the spring-rod extends upward over the axle any suitable distance, and is then bent at right angles, and upon this bent end is placed a friction-roller, G, and a nut, I, to hold the friction-roller in place. The friction-roller bears against the under side of the shaft and serves to prevent the paint and

varnish from being marred by the end of the rod, as would be the case if no friction-roller were used. The strength of the spring-rod, whether a coil is used or not, should be sufficiently great to support the shaft in a raised position, so as both to take its weight off from the horse's back while in use, or to support the shafts in a raised position, so as to have them out of the way when the vehicle is not being used. It is immaterial whether the spring is made in the form here shown or not, so long as it serves to support the shaft, and is made in a single piece with the bolt which connects the shaft to the axle. By means of an attachment such as is here shown the shafts are always held in a raised position, and hence horses which are fractious, or which object to stepping over the shafts, have only to be moved into position in front of the vehicle and then the shafts lowered into position. These springs also serve to keep the shafts constantly forced upward while the vehicle is in use, and hence the weight of the shafts never has an opportunity to gall the back of the horse, as is frequently the case where the whole weight of the shafts are brought to bear upon the back.

Having thus described my invention, I claim—

1. The combination, with the axle and the clips secured thereto, of springs having one of their ends adapted to support the shafts, and the other ends so bent as to pass through the ears of the clips, and thus fasten the shafts to the clips, substantially as shown.

2. The combination of the axle and the clips secured thereto with springs which serve the double purpose of supporting the shafts and fastening the shafts to the clips, the coil of the spring being located in the rear of the axle, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

C. P. TENER.

Witnesses:

JAMES W. CHANEY,  
ALLEN T. BOATMAN.