

(No Model.)

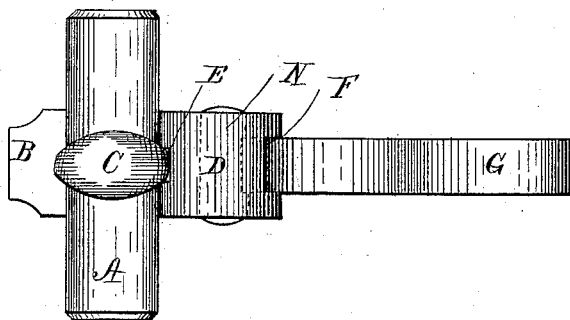
G. C. BOSTWICK.

THILL COUPLING.

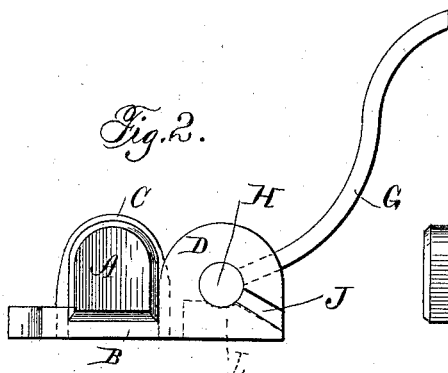
No. 385,589.

Patented July 3, 1888.

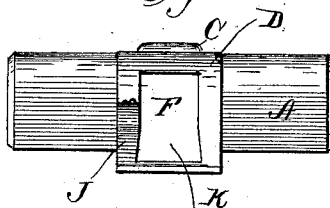
*Fig. 1.*



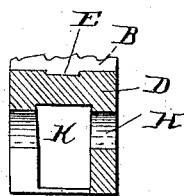
*Fig. 2.*



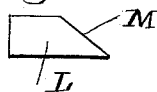
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



Witnesses:

Ira H. Steward.  
Corra L. Goodwallader,

Inventor:

George C. Bostwick.  
By James W. Parker,  
Attor

# UNITED STATES PATENT OFFICE.

GEORGE C. BOSTWICK, OF THREE OAKS, MICHIGAN.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 385,589, dated July 3, 1888.

Application filed March 15, 1887. Renewed February 20, 1888. Serial No. 264,651. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE C. BOSTWICK, a citizen of the United States, residing at Three Oaks, in the county of Berrien and State of Michigan, have invented a new and useful Shaft and Pole Coupling for Vehicles, of which the following is a specification.

My invention relates to couplings for vehicle shafts and poles such as are used to attach the same to the front vehicle-axle or some cross-piece of the vehicle, and has for its object to provide devices whereby the shafts or pole may be easily and readily attached and without the use of removable parts, and in such manner as to be free from rattling and making a noise during use. These objects I accomplish by means of the mechanism illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of the coupling and the axle to which it is attached. Fig. 2 is a side view thereof; Fig. 3, a front view thereof with the shaft-iron and internal cushion removed. Fig. 4 is a horizontal section of the coupling-piece proper, showing the shape of its inner aperture. Figs. 5, 6, and 7 are detail views of the cushion.

Like parts are indicated by the same letter in all the figures.

A is the axle; B, a plate secured to the axle by the clamp C. On the forward end of the plate B is the hollowed portion D, having the slot E on one side to admit one leg of the clamp C, and the slot F in front to permit the passage of the shaft or pole iron G, and also having the cylindrical transverse aperture H, the slot therefrom, J, and the chamber K. This chamber K is larger in cross-section at the rear than at the front, as shown in Fig. 4, and it is larger at the bottom than at the top, as shown in Fig. 3.

L is a cushion, formed of rubber or other suitable material, having the beveled forward end, M. Now, this cushion is first introduced into the chamber K, and, being shaped, as shown in Fig. 6, to correspond with the cross-section of the chamber K, it is retained in such chamber from upward motion, being, so to speak, "dove-tailed." The shaft or pole iron, having the bolt N at its inner end, is inserted into the portion D by carrying its outer end downward and inserting the bolt N through the cylindrical aperture H and the inner end of the iron G through

the slot J. In this position the bolt N bears upon and compresses the cushion L as it lies on the bottom of the chamber K. This compression swells the inner end of the cushion L and causes it to conform to the enlarged inner end of the chamber K, thus filling the same entirely and preventing the cushion L from sliding forward out of the chamber K. The iron G is then raised and brought into proper position for use. This position brings the shank well above the slot J, so that it can never slide out of the aperture F, and thus the shaft or pole is securely held from lateral motion. At the same time it is hinged or journaled to the part D by means of the bolt N, which engages the cylindrical aperture H. It is effectually prevented from rattling by the cushion L, which is somewhat higher as it lies in the chamber K than the bottom of the aperture H, so that it must be compressed as the shaft or pole end is forced in.

In the case of two shafts, they are coupled together by the cross-piece and attached to the axle or other cross-tree by couplings, which open toward the same side.

The coupling-piece D may be attached in any suitable manner, as shown or otherwise, to any suitable cross-piece of the vehicle—as the axle.

The use and operation of my invention are as follows: When the portion D with the plate is attached to the cross-piece or axle A by the clamp C, the cushion L is inserted from the front into the chamber K, its beveled sides engaging the oppositely-beveled sides of such chamber and its beveled end M being toward the front. In this position it is adapted to rise slightly above the bottom of the transverse cylindrical aperture H. The shaft or tongue is now brought into position, and its pin or bolt N is inserted in the aperture H, its shank passing through the slot J until the shank has reached the aperture F, at which time the bolt N will have passed completely into the aperture H and will have engaged both sides of the part D, and the shaft-iron G may then be raised into the slot F; thus it is ready for use. If it is desired to remove the shafts, it is only necessary to press them downward until the shank of the securing-iron G can be moved laterally through the slot J, and

this can be done with great ease and rapidity. The shank while in use cannot be moved laterally, neither can it rattle enough to make any noise, for it is securely held into position  
5 by the sides of the aperture F and by the elastic pressure of the elastic cushion L.

I claim—

1. In a shaft-coupling, a coupling-piece internally recessed, its recess having a greater  
10 width within than at its mouth, in combination with a cushion which, when pressure is applied, fills the back of the recess, and is then held securely in place.

2. In a shaft-coupling, a coupling-piece hav-  
15 ing an internal recess wider at the bottom than

at the top, in combination with a cushion having beveled sides, so that the same is held when in the recess from upward motion.

3. In a coupling for shafts, a coupling-piece having an internal cushion-receiving recess, 20 transverse aperture, and a downwardly-inclined slot therefrom through one side, with a shaft-iron having a transverse bolt, so that when the shaft is greatly depressed its iron can be introduced through the slot into the transverse 25 aperture, so as to be hinged into position.

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Witnesses:

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