(No Model.)

N. M. COMPTON & W. H. LONGCOY.

THILL COUPLING.

No. 412,071. Patented Oct. 1, 1889.

Fig. 1.

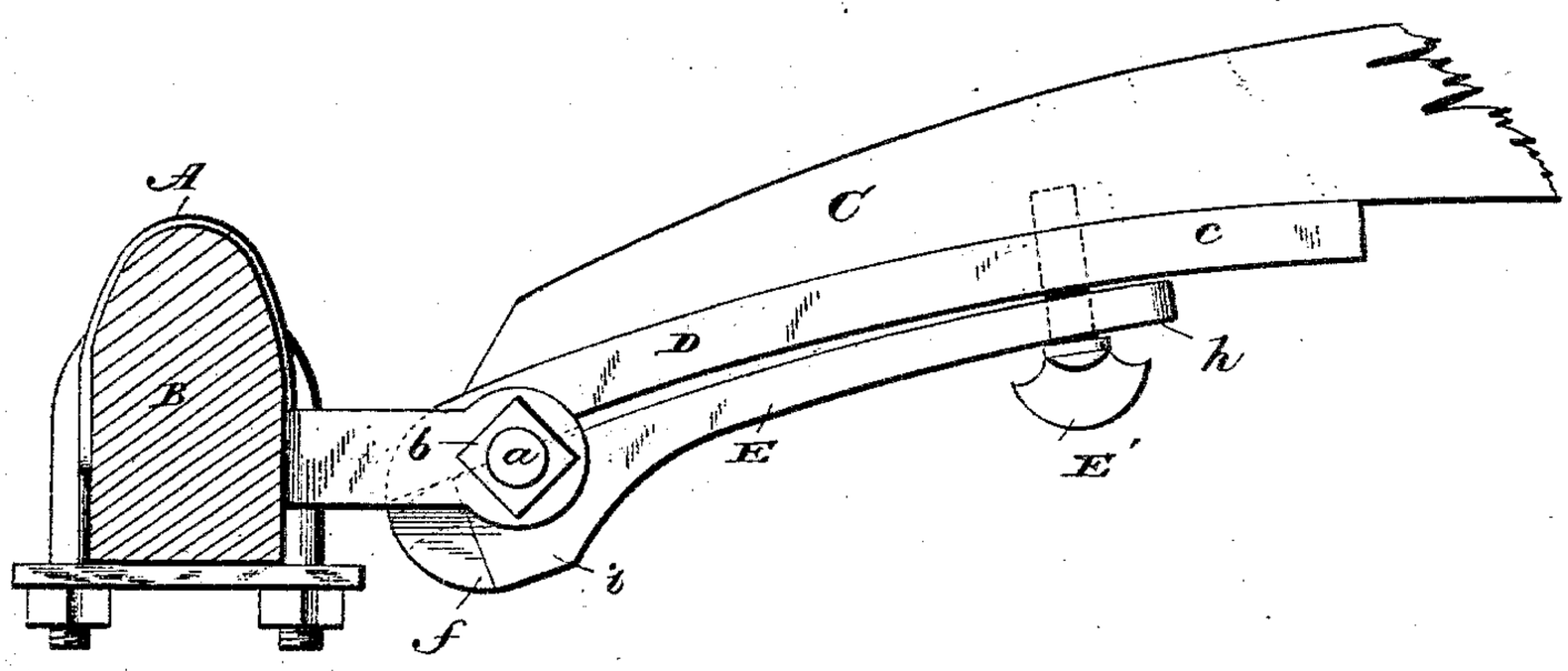
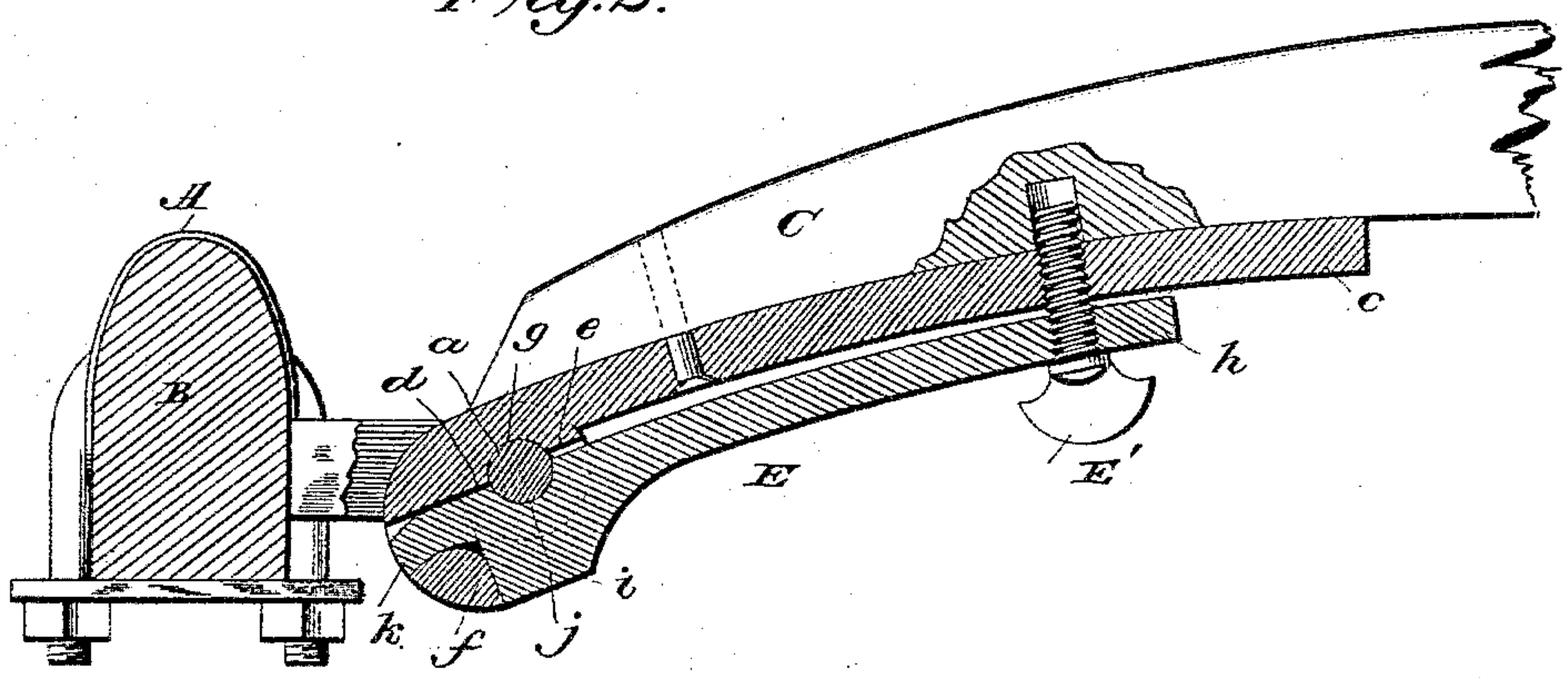


Fig. 2.



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—and—
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Witnesses
L. S. Elliott.
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By his Attorneys

UNITED STATES PATENT OFFICE.

NORRIS M. COMPTON AND WILLIAM H. LONGCOY, OF SULLIVANVILLE, NEW YORK.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 412,071, dated October 1, 1889.

Application filed July 25, 1889. Serial No. 318,689. (No model.)

To all whom it may concern:

Be it known that we, NORRIS M. COMPTON and WILLIAM H. LONGCOY, citizens of the United States of America, residing at Sullivanville, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Thill-Couplings; and we 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 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.

Our invention has reference to thill-couplings; and it consists in the improved construction hereinafter described and set forth, whereby a thill-coupling is provided that will readily enable the ends of the shafts to be readily attached to and disconnected from the clip, the arrangement of parts materially strengthened and simplified, all tendency of rattling overcome, and the accidental withdrawal of the pivot-bolt prevented.

In the accompanying drawings, forming part of this specification, Figure 1 is a side view of a thill-coupling embodying our improvements, and Fig. 2 is a vertical longitudinal section of the same.

The yoke-shaped clip A is bolted to the axle B in the usual manner, and its horizontal and parallel extending ears are transversely perforated for the bearing of the shaft pivot-bolt *a*. This latter bolt is provided with the usual head and has its other extremity threaded for the engagement of the nut *b*. The location of the bolt within the ears is permanent by reason of the fact that the end of said bolt is riveted down upon the nut in order to prevent the withdrawal of said bolt after once being adjusted.

The rear end of each of the shafts C is slightly reduced on its under face to form the bearing for the curved back of a metal section D, the major portion of which is presented by a curved elongated plate *c*, which is secured to said shaft by screws or other suitable securing means. The rear portion of said metal section is slightly enlarged to form the two under bearing-shoulders *d e* and the end stop *f*, which is substantially at right angles with the rest of the section. The under face of the section is recessed between the bearing-shoulders *d e* to form a transverse bearing-channel *g*. The depending stop *f* has a longitudinal opening formed therein, the bottom of which is curved, as shown in Fig. 2.

An independent metal section E, somewhat shorter in length than the section D, has a longitudinal plate *h*, curved to correspond with the plate of the section D, and the rear portion of said section E is enlarged to form a head *i*, adapted to bear against the vertical face of the stop, as shown in the drawings. A transverse channel *j* is likewise formed in the upper face of the section D, and this channel, in conjunction with that in the plate above, is designed to form a transverse bearing perforation for the engagement and reception of the pivot-bolt of the clip. A curved lug *k* extends integrally and horizontally from the end face of the enlarged portion *i*, and said lug is adapted to engage the opening in the end stop of the upper section. The plate of said lower section E is provided near its front end with a vertical perforation adapted to register with the threaded opening formed in the plate of the upper section D.

In practice the shaft carrying the upper section is applied to the clip, so that the channel in the former will be engaged by the upper face of the pivot-bolt. The lower section, while held in a position divergent from the upper plate, is operated to cause its curved lug to enter the opening in the end stop of the latter, after which the said plate E, by reason of the curved bottom of said opening and the corresponding curvature of its end lug, can be elevated to a position substantially parallel with the upper section and enable it to be connected thereto by means of a thumb-screw E′, adapted to be inserted through the perforation in the section E and engage the threaded recess in the section D. The shoulders *d e* not only compensate for wear, but enable the said lower section to be so held that the shaft-connection with the bolt will not bind on the latter.

From the foregoing it will be obvious that

the device is of simple and inexpensive character, and comprises comparatively few parts; that the latter may be readily detached for cleaning or renewing and readily lubricated while in position, and that all tendency of the pivot-bolt to become accidentally lost or removed is prevented by reason of its permanent connection with the clip-ears. Furthermore, the arrangement is such that there can be no rattling or unnecessary vibration common to ordinary forms of thill-couplings.

We claim—

1. The combination, in a thill-coupling, of a clip designed to be connected to the axle and having ears permanently carrying the pivot-bolt, a metal section D, having a bolt-channel and end stop, the latter perforated, as described, and a lower section E, having a bolt-channel, an end lug to engage the perforation in the stop, so as to pivotally engage said sections, and a device for connecting the free ends of said sections, substantially as set forth.

2. The combination, in a thill-coupling, of the axle-clip provided with a permanently-attached pivot-bolt, a section D, having the bolt-channel and vertical end stop, the latter provided with an opening having a curved bottom, and the lower section E, provided with a bolt-channel and having the end lug to engage said stop-opening and curved to correspond with the bottom thereof, and a thumb-screw for connecting the free end of said section E to the section D, substantially as set forth.

3. The combination, in a thill-coupling, of the clip having the permanent pivot-bolt and the sections D E, grooved, as described, and pivotally engaged in the rear of said bolt and connected as set forth, the section D having shoulders *d e* to hold the forward portion out of contact with the similar parts of section E, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

NORRIS M. COMPTON.
WILLIAM H. LONGCOY.

Witnesses:
H. H. WARDEN,
JUDD LITTLE.