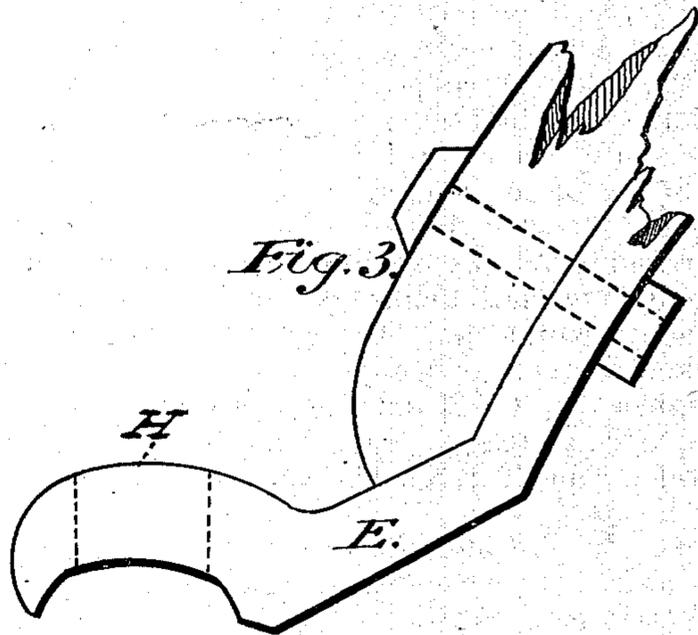
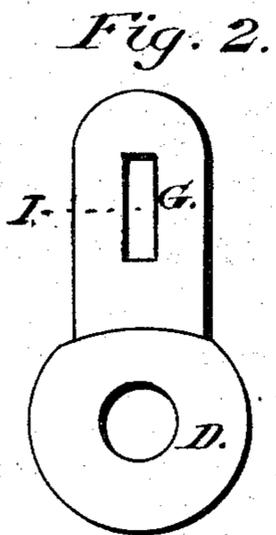
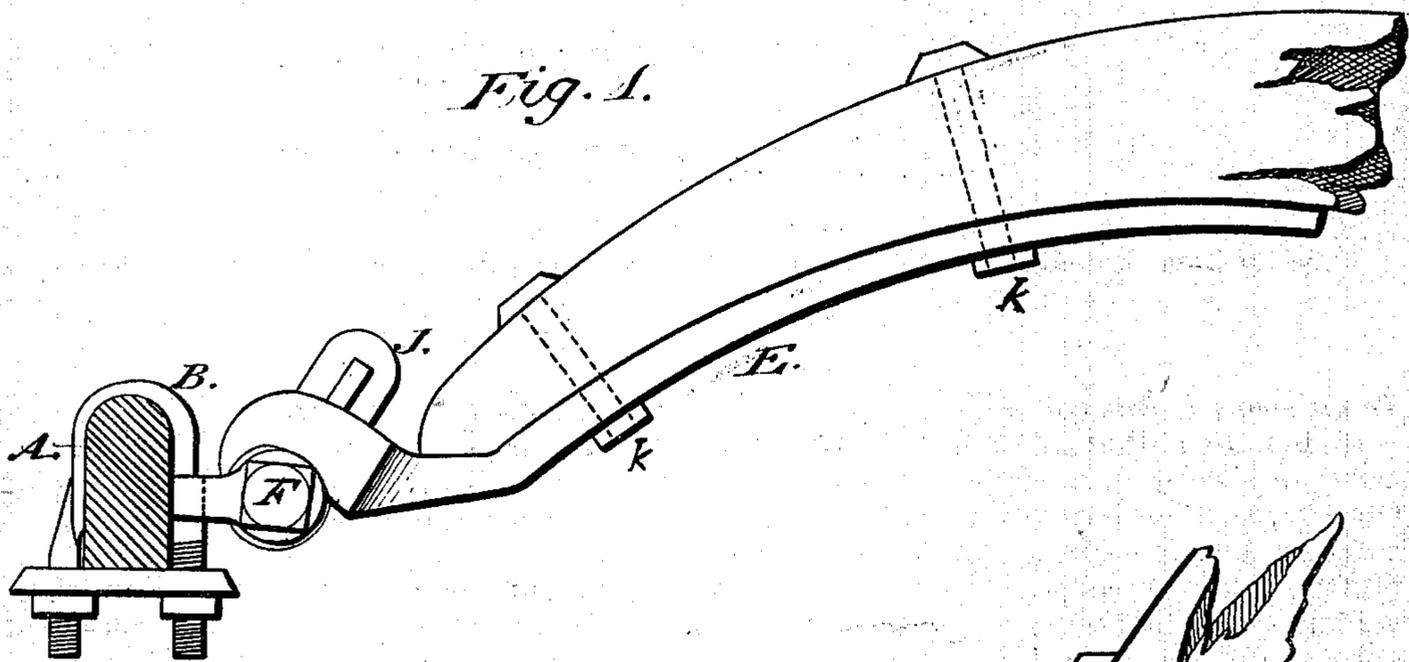


L. LEE.
Thill-Couplings.

No. 146,346.

Patented Jan. 13, 1874.



Attest
John Gwynn.
Alexander Dewey

Inventor.
Lemuel Lee.

UNITED STATES PATENT OFFICE.

LEMUEL LEE, OF MELMORE, OHIO.

IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **146,346**, dated January 13, 1874; application filed May 26, 1873.

To all whom it may concern:

Be it known that I, LEMUEL LEE, of Melmore, in the county of Seneca and State of Ohio, have invented a new and useful improvement in the manner and appliances for attaching the thills or tongue to a buggy or other vehicle, whereby the time, trouble, and annoyance of the removal of the front wheels, and the filthy contact therewith, are avoided; and I hereby declare that the following is a full, clear, and exact description of the construction thereof, reference being had to the accompanying drawings and the letters of reference marked thereon, of which—

Figure 1 is a full side view of the whole of the parts attached. Fig. 2 is the revolving swivel D, and Fig. 3 is the mortised coupling-iron E.

I use the ordinary form of axle-tree clip B, attached to the axle A in the usual manner by plate and two nuts, to secure it in position; and I use the ordinary bolt and nut to secure the revolving swivel D within the jaws of clip B. This revolving swivel D, Fig. 2, is a round cylinder of iron, formed for the bolt F to pass through the center. On one side is formed a tenon, G, for the purpose of passing through the mortise H in the coupling-iron E. Through the upper end of the tenon G is formed a slot, I, through which passes a flat pin, J, to secure

the said coupling-iron E in its place, and the pin J is secured by a leather thong, or in some other suitable manner. The coupling-iron E is secured to the shaft or tongue by bolts K K.

It will be seen that the cylindrical form of the revolving swivel, being embraced by the concave end of the coupling-iron E, drawn snugly home by the pin J, cannot rock or get loose; and that the strain of the draft is nearly the same as if the parts were solid.

To detach the shafts or tongue from the vehicle, the pin J is removed from the slot I, and they can be lifted off, and replaced in the same simple manner, and the removal of the revolving swivel D is never necessary.

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

The combination of the revolving swivel D with the tenon G constructed thereon, the clip B, the coupling-iron E with concave recess, and mortise H, all constructed as described, and for the purpose set forth.

LEMUEL LEE.

Witnesses:

JOHN GWYNN,
ALEXANDER PEW.