C. E. BRAINERD.
Thill-Coupling.

No. 217,052. Patented July 1, 1879.

Fig. 1.

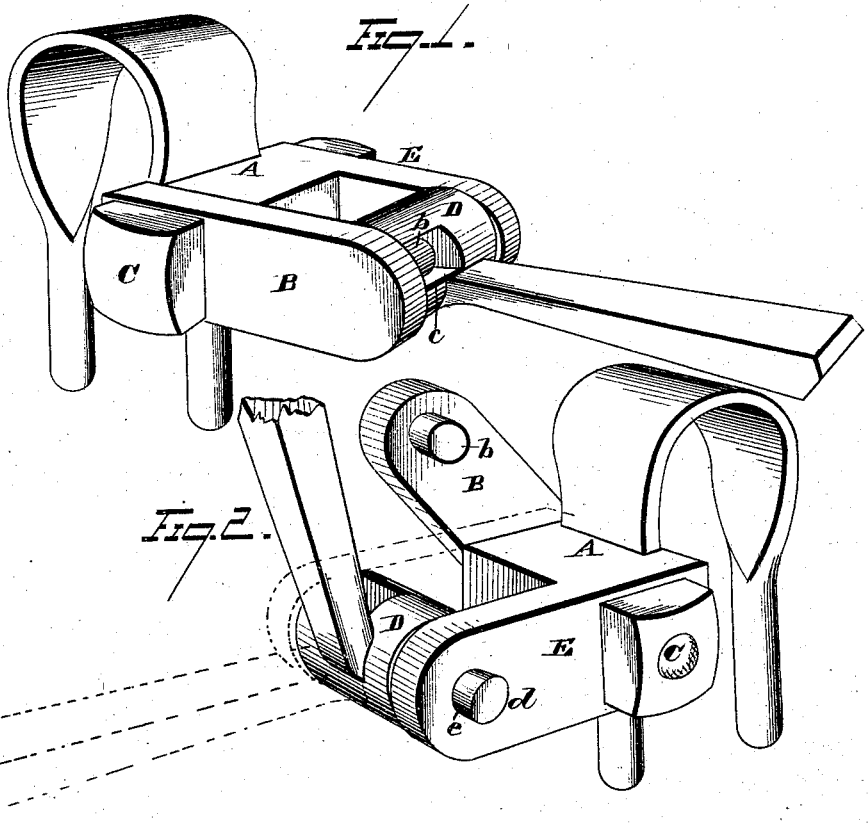
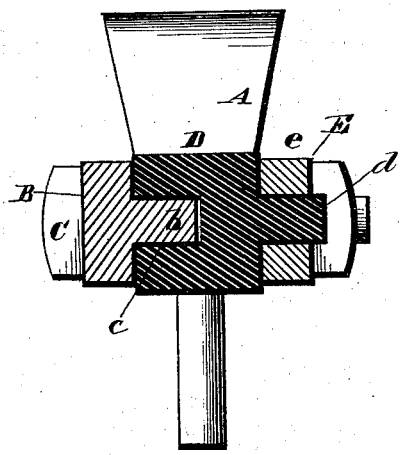
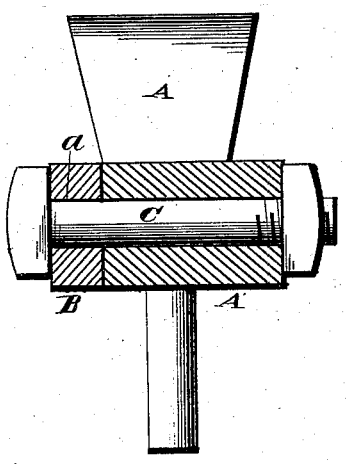


Fig. 2.

Fig. 3.





WITNESSES
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UNITED STATES PATENT OFFICE.

CHARLES E. BRAINERD, OF TRAER, IOWA, ASSIGNOR TO HIMSELF AND WILLIAM H. NEWCOMER, OF SAME PLACE.

IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **217,052**, dated July 1, 1879; application filed May 12, 1879.

To all whom it may concern:

Be it known that I, CHARLES E. BRAINERD, of Traer, in the county of Tama and State of Iowa, have invented certain new and useful Improvements in Thill or Tongue Couplings; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to devices for attaching tongues or thills to the axles of carriages or wagons, and is intended to provide a construction which will permit the same to be readily connected or disconnected, and also be strong and durable in use.

My design is to make one of the ears of the axle-clip pivoted to the latter, so as to have movement in a vertical plane, and to adapt the same to engage with the tongue or thill iron, so that by merely raising the pivotal ear said iron may be connected or disconnected at once with the clip.

The invention consists, first, in the combination, with an axle-clip provided with an independent ear pivoted to have movement in a vertical plane, of a thill or tongue iron, which connects with said ear by a slot-and-stud engagement; second, in the combination, with an axle-clip whose pivotal ear is provided with an inwardly-projecting stud, of a thill or tongue iron formed with an open side slot, in which said stud works; third, in the combination, with an axle-clip whose pivotal ear is provided with an inwardly-projecting stud, of a thill or tongue iron formed at one side with a slot, in which said stud fits, and at its opposite side with an outwardly-projecting stud, which fits in an eye made in the fixed ear; fourth, in the combination, with an axle-clip formed with a fixed ear having stud-and-eye engagement with a thill or tongue iron, of a movable ear having stud-and-slot engagement with said iron, together with a horizontal bolt which passes transversely through the clip and the rear extremity of said movable ear.

Referring to the drawings, Figure 1 is a view, in perspective, of a device embodying my preferred construction, and showing the coupling as locked. Fig. 2 is a similar view, looking from the opposite side, and showing the coupling unlocked. Fig. 3 represents two vertical transverse sectional views taken, respectively, through the pivotal support of the thill or tongue iron, and through the pivotal support of the movable ear.

An axle-clip, A, is made with the ear B, pivoted thereto by a bolt, C, which latter passes transversely through the clip and through an eye, *a*, in the rear portion of said ear. The free extremity of this pivotal ear is formed with the right-angular stud *b*, which projects horizontally from its inner face, and fits in the open side slot, *c*, which latter is formed in the contiguous side of the thill or tongue iron D. The opposite side of said iron is formed with a horizontal stud, *d*, which projects outwardly and works in an eye, *e*, formed in the fixed ear E.

To disconnect the thill or tongue with the axle, the same is raised into position such as will permit the stud on the pivotal ear to be lifted out from the open side slot in which it works. The pivotal ear is then itself thrown up, which disengages it with the thill or tongue iron, and the latter can then be withdrawn in horizontal transverse line from its connection with the fixed ear.

To connect the thill or tongue with the axle, the pivotal ear is raised sufficiently to permit its iron to engage with the fixed ear, and when the open side slot in said iron is in position to receive the stud of the pivotal ear, the latter is dropped down, so as to effect such an engagement therewith.

It is apparent that certain immaterial changes and mechanical modifications of this invention may be made without departing from the scope of the latter, as set forth in the claims.

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

1. The combination, with an axle-clip provided with an independent ear pivoted to have movement in a vertical plane, of a thill or tongue iron, which connects with said ear by

a slot-and-stud engagement, substantially as set forth.

2. The combination, with an axle-clip whose pivotal ear is provided with an inwardly-projecting stud, of a thill or tongue iron formed with an open side slot, in which said stud works, substantially as set forth.

3. The combination, with an axle-clip whose pivotal ear is provided with an inwardly-projecting stud, of a thill or tongue iron formed at one side with a slot, in which said stud fits, and at its opposite side with an outwardly-projecting stud, which fits in an eye made in the fixed ear, substantially as set forth.

4. The combination, with an axle-clip formed with a fixed ear having stud-and-eye engagement with a thill or tongue iron, of a movable ear having stud-and-slot engagement with said iron, together with a horizontal bolt which passes transversely through the clip and the rear extremity of said movable ear, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of May, 1879.

CHARLES E. BRAINERD.

Witnesses:
C. C. COLLINS,
C. M. LATHROP.