No. 607,772. Patented July 19, 1898.

W. E. SHERWOOD.

THILL COUPLING.

(No Model.) (Application filed Jan. 25, 1898.)

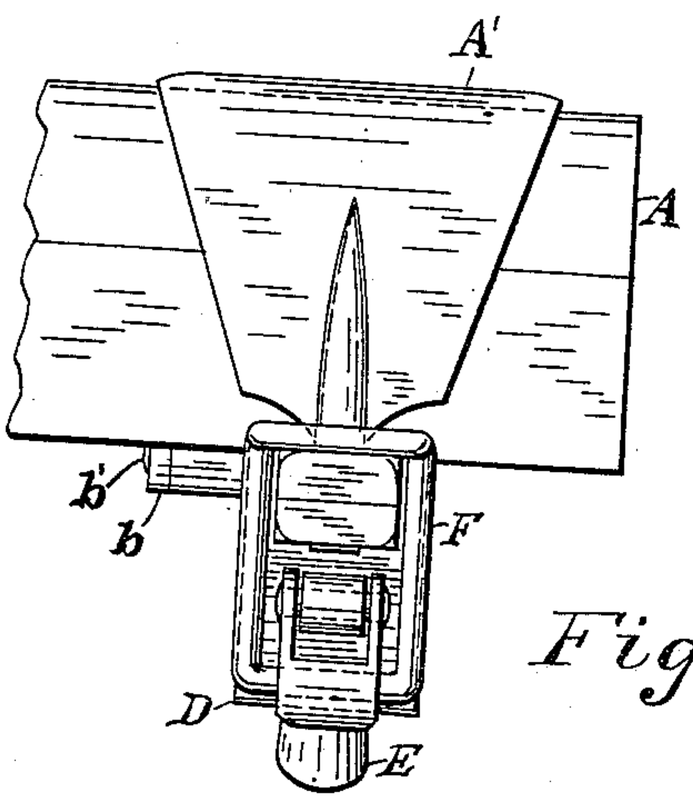

Fig. 3

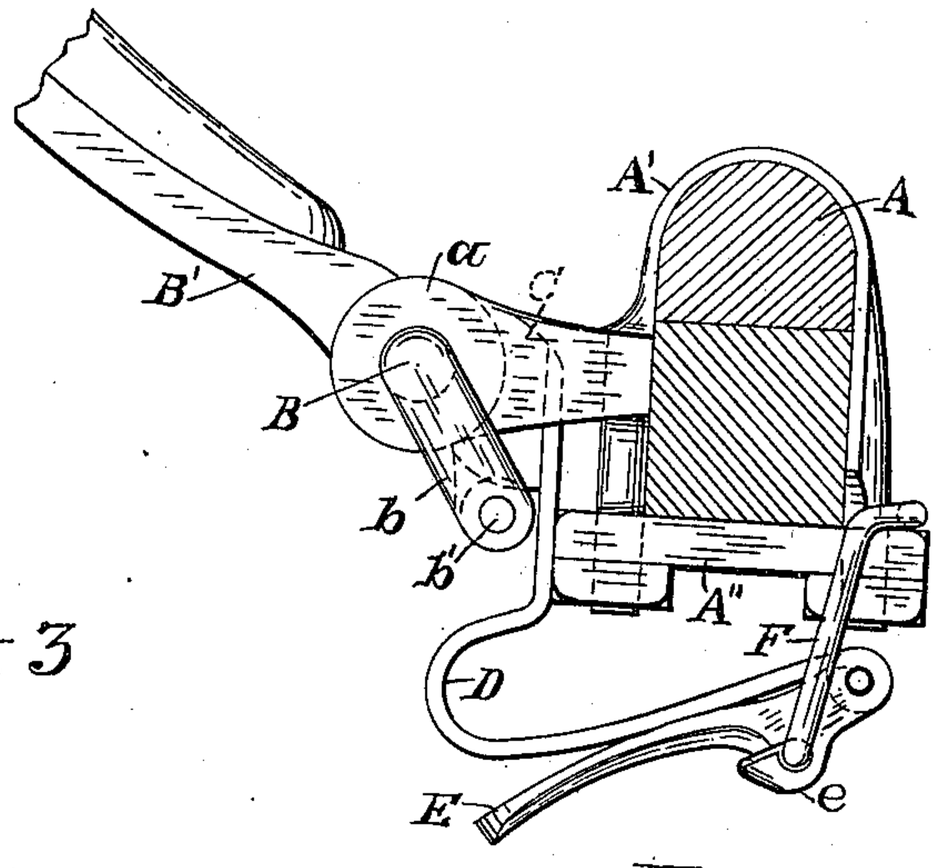

Fig. 1

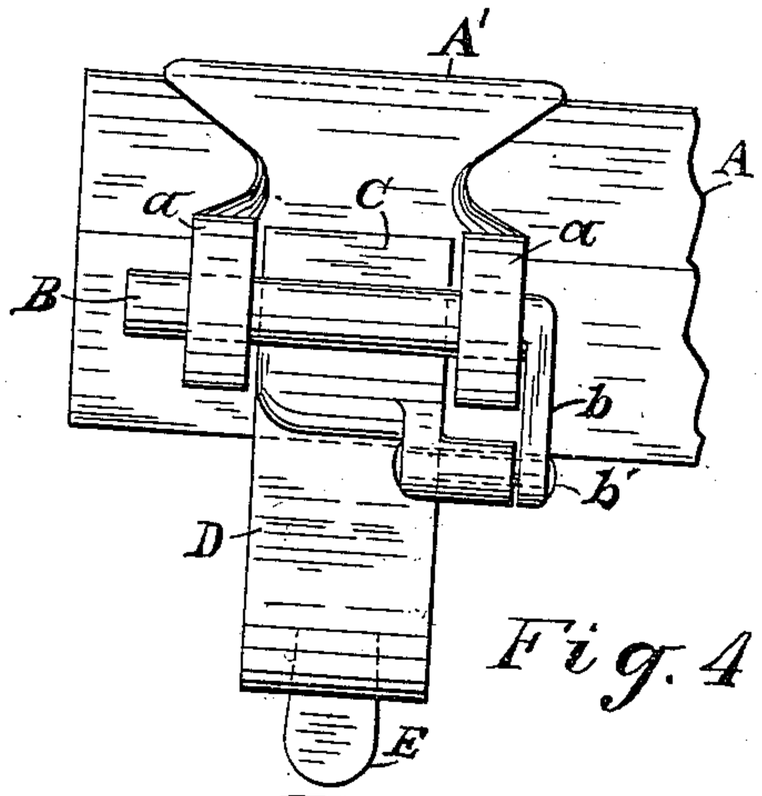

Fig. 4

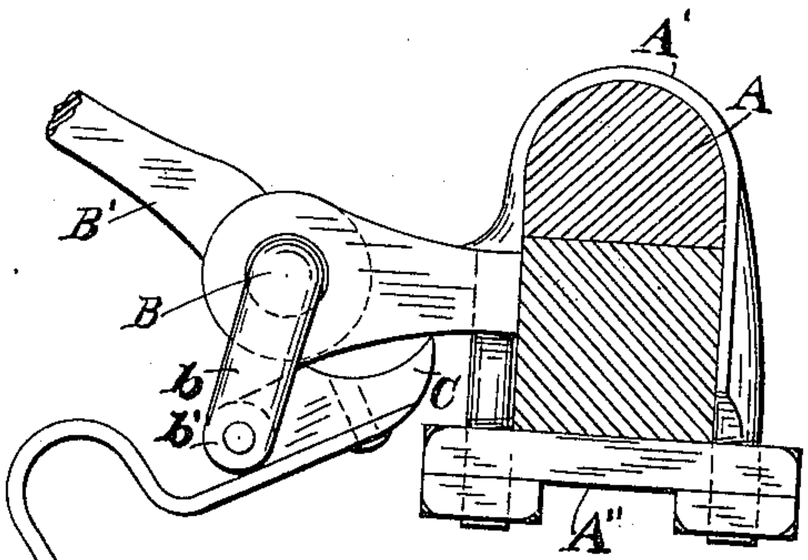

Fig. 2

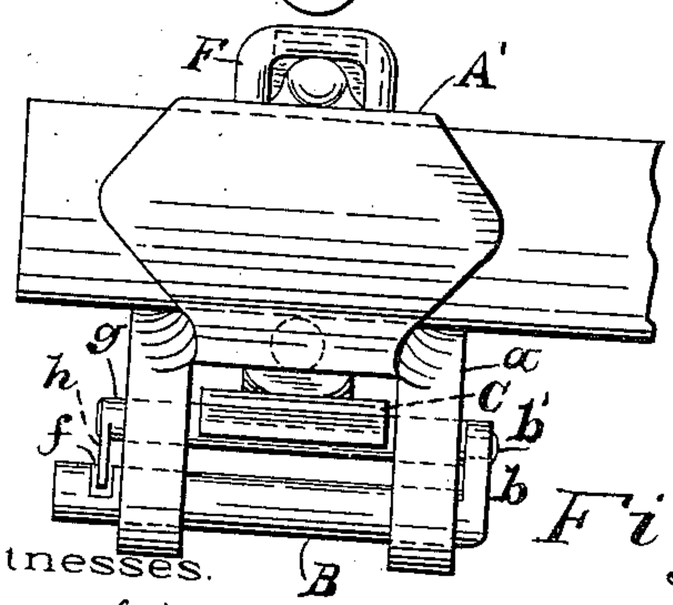

Fig. 5

Witnesses.

Mark W. Dewey

Alvin D. Allen

Inventor.

William E. Sherwood

By C. H. Duell

his Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM E. SHERWOOD, OF ONEIDA, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF TWO-THIRDS TO WILLIAM E. DOUGLAS AND JOHN H. BROWN, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 607,772, dated July 19, 1898.

Application filed January 25, 1898. Serial No. 667,880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. SHERWOOD, of Oneida, in the county of Madison, in the State of New York, have invented new and useful Improvements in Thill-Couplings, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in thill-couplings that prevent rattling; and the object is to provide a coupling of this nature that will be simple and durable and that will be easy and effective in its operation.

To this end my invention consists in the combination, with the usual clip, clip-plate, and knuckle, of a bolt passing through the clip-ears and knuckle, having an arm at one end extending downwardly, a wear-plate bearing upon the rear side of the knuckle and having a depending horizontal projection pivoted to the said arm, a spring secured to the wear-plate and extending rearwardly below the clip-plate, a lever pivoted to the rear end of the spring, and a bail connecting the said lever with the rear end of the clip-plate; and my invention consists in certain other combinations of parts hereinafter described, and specifically set forth in the claims.

In the drawings hereto annexed and forming a part of this specification, Figure 1 is a side elevation of my improved coupling. Fig. 2 shows the same after the bail has been released from the clip-plate and in position for the removal of the bolt from the clip-ears. Fig. 3 is a rear view of the device when in its operative position. Fig. 4 is a front view with the knuckle removed; and Fig. 5 is a top plan view of a modification, showing means for retaining the bolt in the coupling should the bail become accidentally released.

Referring specifically to the drawings, A is a portion of the axle, provided with the usual clip A′ and tie-plate A″ below the axle. The clip has the usual forwardly-extending ears *a a*, between the ends of which is held by a bolt B the thill-knuckle B′.

The wear-plate C is located between the ears and between the knuckle and the clip and is provided with a concave inner face to bear upon the said knuckle, and to the opposite face is secured by a rivet or other suitable means the end of a flat bent spring D, which extends rearwardly beneath the tie-plate. To the rear end of the spring D is pivoted a lever E, which is provided with a link or bail F for connection with the rear end of the tie-plate A″. When the bail F is attached to the tie-plate and the lever is drawn forward so that its upper side bears upon the lower side of the spring D, the lever is held in this position and the wear-plate C is pressed against the knuckle B′. The lever E is retained in this position by the bail, which is adapted to turn in a bearing in the lever and which then has its bearing below and forward of the end of the spring D, as shown in Fig. 1.

The end of the lever pivoted to the spring is bifurcated, so that the end of the spring, which is provided with an eye, is held in the bifurcation. The bearing for the lower end of the bail is formed by a lip or projection *e* of the lever, which is bent around the portion of the bail passing below the lever. The upper end of the bail is bent rearwardly to fit around the bolt of the clip and to throw the bail forward. The front end of the tie-plate A″ and the nut form a fulcrum for the inner side of the spring D, which is in reality a spring-lever. The bolt B is held in place and secured to the wear-plate C by means of a depending arm *b* on one end of the bolt and a depending horizontal projection on the wear-plate, which is pivoted to the end of the arm by a rivet *b′*.

When the parts are in their operative position, as shown in Fig. 1, it will be obvious that the bolt cannot come out, owing to the position of the wear-plate between the ears of the clip. To remove the thill or knuckle B′, the lever is thrown back to loosen the bail. Then the bail is removed from the tie-plate and the parts carried downward and forward, as shown in Fig. 2 of the drawings. This removes the wear-plate from between the ears *a a* and permits the withdrawal of the bolt B and the removal of the parts connected thereto.

To insure against the removal of the bolt

should the bail be inadvertently removed from the tie-plate, I may provide the end of the bolt B with a recess *f*, as shown in the modification in Fig. 5, and provide the wear-plate with another depending horizontal projection *g*, having an arm *h* entering the recess when the parts are lowered. In this case it would only be necessary to carry the parts still farther forward before removing the bolt in order to remove the arm *h* from the recess.

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

1. In a thill-coupling, the combination with the usual clip, clip-plate and knuckle, of a bolt passing through the clip-ears and knuckle, having an arm at one end extending downwardly, a wear-plate bearing upon the rear side of the knuckle and having a depending horizontal projection pivoted to the said arm, a spring secured to the wear-plate and extending rearwardly below the clip-plate, a lever pivoted to the rear end of the spring, and a bail connecting the said lever with the rear end of the clip-plate, as set forth.

2. In a thill-coupling, the combination with the usual clip, clip-plate and knuckle, of a bolt passing through the clip-ears and knuckle, having an integral arm at one end extending downwardly, a wear-plate having a concave face bearing upon the rear side of the knuckle and having a depending horizontal projection pivoted to the end of the said arm, a spring secured to the rear side of the wear-plate and extending rearwardly below the clip-plate, a lever pivoted to the rear end of the spring, and an angular bail connecting the said lever with the rear end of the clip-plate, as set forth.

3. In a thill-coupling, the combination with the usual clip, clip-plate and knuckle, of a bolt passing through the clip-ears and knuckle, having an arm at one end extending downwardly, a wear-plate bearing upon the rear side of the knuckle and having a depending horizontal projection pivoted to the said arm, a spring secured to the wear-plate and extending rearwardly below the clip-plate, a lever pivoted to the rear end of the spring, a second depending horizontal projection on the wear-plate having an arm adapted to enter a recess in the side of the bolt, and a bail connecting the said lever with the rear end of the clip-plate, substantially as shown and described.

In testimony whereof I have hereunto signed my name.

WILLIAM E. SHERWOOD.

Witnesses:
T. H. JURDEN,
A. B. MUNROE.