G. W. HASKELL.
Thill-Coupling.

No. 205,082. Patented June 18, 1878.

FIG. 1.

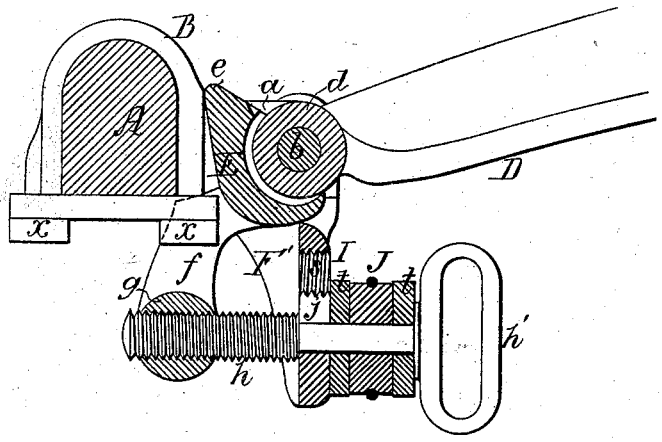


FIG. 4.

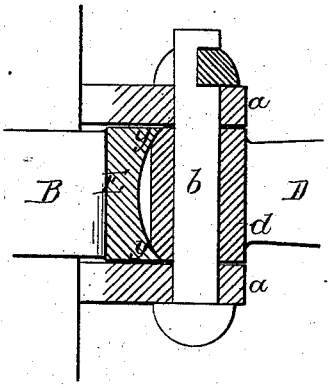


FIG. 2.

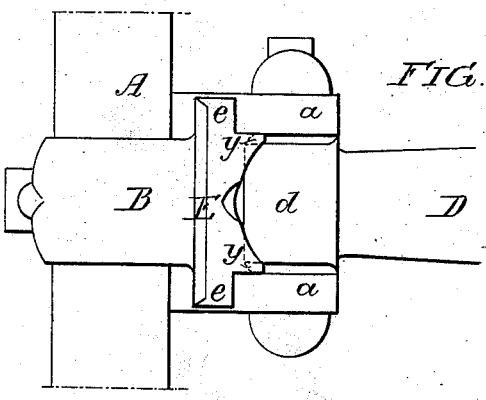
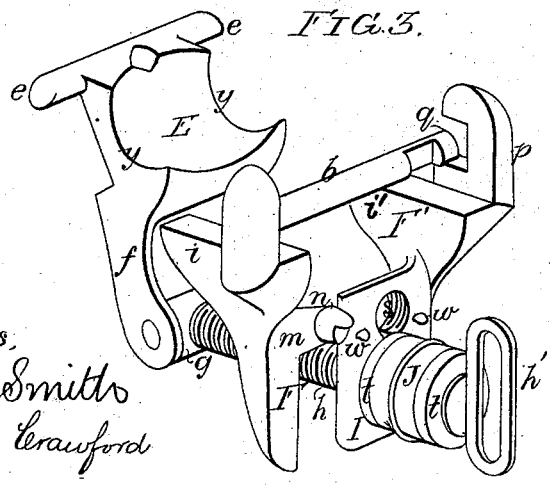


FIG. 3.



Witnesses,
Harry Smith
Harry A. Crawford

Inventor
George W. Haskell
by his attorneys
Howson and Son

UNITED STATES PATENT OFFICE

GEORGE W. HASKELL, OF PHILADELPHIA, PA., ASSIGNOR TO HIMSELF, WILLIAM H. HASKELL, AND HENRY J. HASKELL, OF SAME PLACE.

IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **205,082**, dated June 18, 1878; application filed May 20, 1878.

To all whom it may concern:

Be it known that I, GEORGE W. HASKELL, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Thill-Couplings, of which the following is a specification:

My invention relates to certain improvements in the thill-coupling for which Letters Patent of the United States No. 185,528 were granted to my assignees on the 19th day of December, 1876; the objects of my present improvements being to prevent rattling due to lateral movement of the thill-iron, and to simplify the construction of the other parts of the device—objects which I attain in the following manner, reference being had to the accompanying drawing, in which—

Figure 1 is a longitudinal section of my improved thill-coupling; Fig. 2, a plan view of the same; Fig. 3, a perspective view of the detachable parts of the coupling, and Fig. 4 a sectional view of part of the coupling.

A represents the front axle, and B the clip, arranged to embrace the axle, and secured thereto by nuts *x*, the clip being provided with two projecting ears, *a a*, between which is hung, by a transverse bolt, *b*, the eye *d* of the thill-iron D, the latter being secured to the pole, or to one of the shafts, in the usual manner.

Hung to the ears *a* by means of lugs *e*, resting on the tops of the ears, is a block, E, which is arranged to bear against the eye *a*, as described hereinafter, and has two downwardly and rearwardly projecting arms, *f*, between the lower ends of which is a block, *g*, pivoted to the arms in the present instance, and having a threaded opening adapted to a screw-stem, *h*, which is reduced in diameter at the front end, and has an elongated eye, *h'*, by which it may be turned.

Secured to or forming part of the pivot-pin *b*, and projecting downwardly from one end thereof, is a plate, F, on which is formed an arm, *i*, for bearing against the axle and against the under side of one of the ears *a*, and on the plate F is also formed an inwardly-projecting arm, *m*, on which is a lug, *n*.

The reduced portion of the screw-stem *h* is adapted to a vertical slot, *j*, in a plate, I, carried by a plate, F', the latter having an arm, *i'*, similar to the arm *i* of the plate F, and having also an upwardly-projecting lug, *p*, in the front edge of which is formed a recess, *q*, the recessed portion of the lug being adapted to the notched end of the bolt *b*, in the same manner and for the same purpose as in my patented coupling.

The lug *n* assists in preventing the lateral withdrawal of the bolt *b*, for when the parts are properly fitted together the lug *n* is adapted to the enlarged opening *s* at the upper end of the slot *j* in the plate I. This opening is threaded, in order to permit the introduction of the screw-stem *h* into its proper position, the threaded portion of the stem being first screwed through the opening, and the reduced portion of the stem being then depressed into the slot *j*.

The pressure of the block E upon the eye *d* of the thill-iron is caused by a rubber block, J, which surrounds the reduced portion of the stem *h*, and intervenes between the plate I and the eye *h'* on the stem, washers *t* being arranged, in the present instance, at each end of the block, so as to prevent any friction upon the rubber when the screw-stem is turned. Any form of spring may, however, be substituted for the rubber.

In order to prevent the accidental rising of the stem *h* from the slot *j*, lugs *w* are formed on the front of the plate I, these lugs coming in contact with the inner washer *t* when the latter attempts to rise.

In order to prevent the detaching of the screw-stem *h* from the block E, the end of said screw-stem, after passing through the block *g*, is enlarged by hammering or otherwise. If the block *g* is rigidly secured to the ends of the arms, it will be necessary to allow the screw-stem *h* to be withdrawn, in order to get the coupling apart.

It will be observed, on reference to Figs. 2 and 4, that the ends of the eye *d* are beveled, and that the block E has at each end projections *y*, adapted to the said beveled ends of the eye. This forms one of the most important features of my invention, as I am thereby enabled to confine the eye *d* laterally and prevent rattling, owing to sidewise movement of the shaft or pole, thus overcoming a serious objection to thill-couplings in which the clamping-block

is in frictional contact with the rear face of the eye only.

Other modes than that shown of effecting this lateral confinement may be adopted. For instance, the face of the eye may be curved, and the block may have a curved recess adapted to the curved face of the eye.

By forming the rearwardly-projecting arms *f* on the block E, I am enabled to bring the other parts of the coupling much farther in toward the axle than in the patented coupling, so that the present coupling presents a neater and more attractive appearance than the former one.

I claim as my invention—

1. A thill-coupling in which the clamping-block E is arranged to laterally confine the eye *d* on the thill-iron, all substantially as set forth.

2. The combination of the eye *d*, the clamping-block E, having arms *f* and block *g*, and the screw-stem *h*, as specified.

3. The combination of the plate F′ and its plate I, having an opening, *s*, with the plate F, its arm *m*, and lug *n*, as specified.

4. The combination of the plate I, having a slot, *j*, and lugs *w*, with the screw-stem *h* and washer *t*, as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE W. HASKELL.

Witnesses:
HARRY A. CRAWFORD,
HARRY SMITH.