

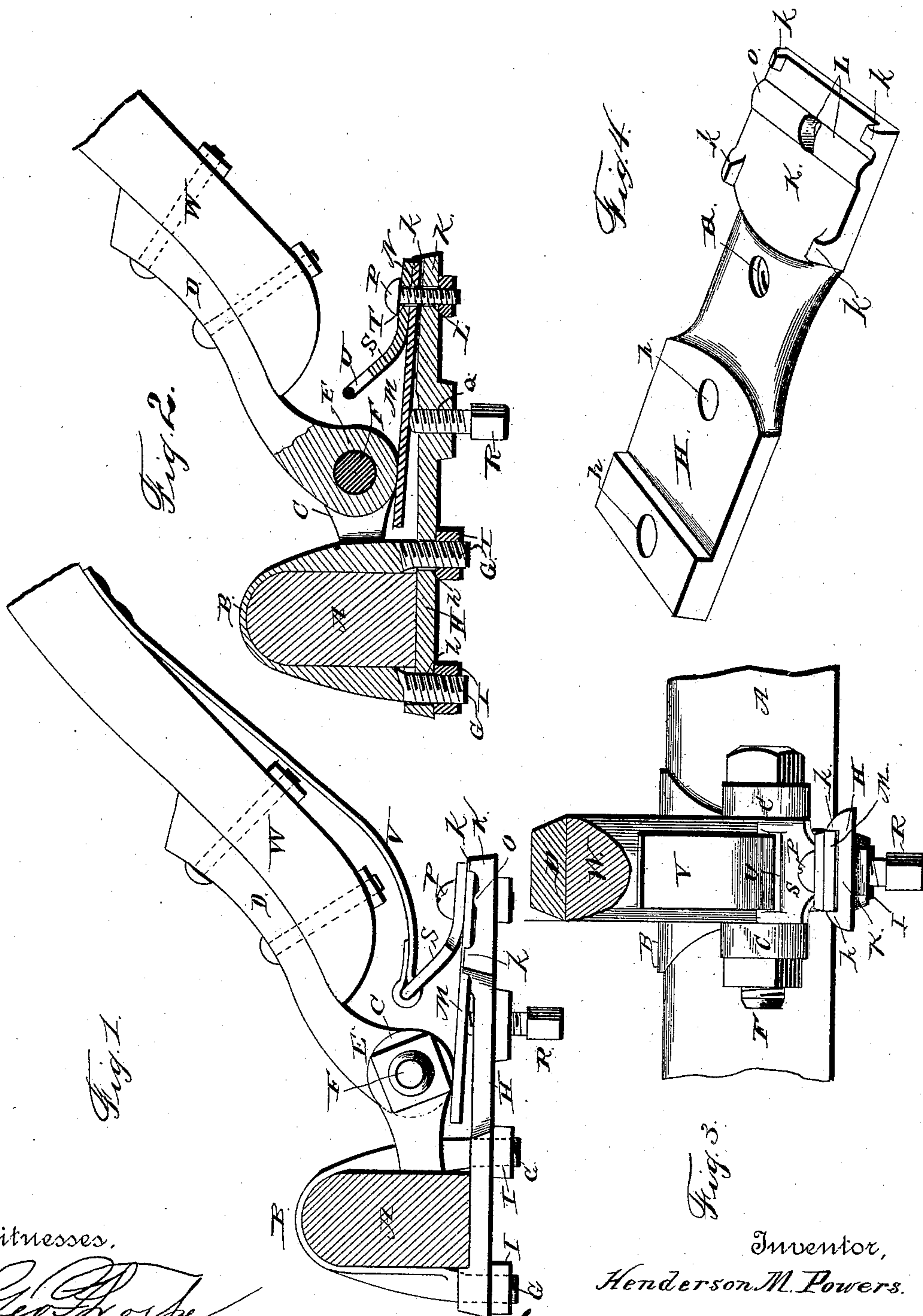
(No Model.)

H. M. POWERS.

THILL COUPLING.

No. 387,254.

Patented Aug. 7, 1888.



Witnesses.

*Geo. H. Hoyle*  
*C. E. Hoyle*

Inventor,

*Henderson M. Powers.*

By *his* Attorneys.

*C. M. Snow*



# UNITED STATES PATENT OFFICE.

HENDERSON MORTON POWERS, OF LANCASTER, PENNSYLVANIA.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 387,254, dated August 7, 1888.

Application filed January 10, 1888. Serial No. 260,283. (No model.)

*To all whom it may concern:*

Be it known that I, HENDERSON MORTON POWERS, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented a new and useful Improvement in Thill-Couplings, of which the following is a specification.

My invention relates to improvements in thill-couplings, and it has for its object to provide means whereby the wear of the bearing-box at the rear end of the thill-iron and the spindle upon which the said box is mounted may be readily taken up to prevent rattling.

The invention consists in a certain novel construction and arrangement of devices, which is fully set forth hereinafter and illustrated in the accompanying drawings, wherein—

Figure 1 is a side view. Fig. 2 is a longitudinal section taken centrally, with the safety-strap removed. Fig. 3 is a front view with the thill raised. Fig. 4 is a detail view of the improved clip-plate.

Referring by letter to the accompanying drawings, A designates the axle, over which is arranged the axle-clip B, having the forwardly-extending ears C C, provided with aligned bearings.

D designates the thill-iron, having the bearing-box E at its rear end, and a bolt, F, passes through the bearings in the ears C and the bearing in the said box, thereby mounting the thill-iron on the clip between the said ears.

The clip is further provided with depending integral bolts G G, which pass through apertures *h h* in the clip-plate H, and nuts I I are screwed on the projecting ends of the said bolts. The plate H extends forward beyond the ends of the ears C C, and is fashioned into a chair, K, having the vertical lugs *k k*, forming shoulders at the side edges of the chair. An aperture, L, is formed in the center of the chair, and a rounded rib, O, is arranged transversely across the chair and extends on both sides of the said aperture.

It will be seen that the surface of the chair is inclined upward toward its rear end, for a purpose which will be more fully explained hereinafter.

M designates the spring, which fits between the shoulders at the sides of the chair, and rests on the transverse rib O, which thus forms a fulcrum therefor. The spring is provided

with an aperture, N, near its outer end, to align with the aperture L, and a bolt, P, engages the said apertures, thereby securing the spring to the chair.

Q represents a tapped aperture which is formed in the plate in rear of the chair, and in the same is mounted the set-screw R, which is adapted to impinge at its upper end against the under side of the spring close to the bearing-box of the thill-iron. It will be seen that by means of this set-screw the spring may be forced with any desired force against the under side of the bearing-box, and as the bearing in the latter wears, the spring may be elevated to take up the play and prevent rattling.

S represents a bracket, which is provided with an aperture, T, in its front end to receive the bolt P, and the upper rear end of the bracket is provided with an eye, U, in which is engaged the rear end of the safety-strap V, while the front end of the said strap is attached to the thill W. The function of this strap is to prevent the thills from falling in case the bolt on which the thill-iron is mounted should break or become displaced.

This device is simple, and it may be used in connection with any ordinary thill-coupling by simply substituting for the ordinary clip-plate the extended clip-plate which is herein described.

It will be seen that the spring which is shown and described in connection with this device is analogous to a plate, and a rigid plate may be used in place thereof, if so desired; but a spring is preferable, as its yielding quality enables it to give slightly when the thill-iron is moved, thereby allowing the latter to move more easily. It will also be seen that the surface of the chair, being inclined downward toward its front end, thereby forms a ridge at its rear edge, upon which the spring may bear before the bearing is at all worn.

Having thus described my invention, I claim—

1. The clip-plate attached to the axle-clip and having a chair on its outer end, provided with vertical lugs forming shoulders, the spring mounted in the chair between the shoulders and the set-screw to force the free end of the spring against the thill-box, substantially as specified.

2. The clip-plate attached to the axle and



having a transverse rib, O, on its upper side, the spring bearing on the said rib, the bolt passing through the spring and the clip-plate, and the set-screw under the free end of the  
5 spring, substantially as and for the purpose specified.

3. The clip-plate attached to the axle-clip and having the chair on its front end, provided with an inclined surface and a central  
10 aperture, and the spring bearing on the inclined surface of the chair, and secured thereto by a bolt which passes through the spring and the aperture in the chair, whereby the rear end of the spring bears against the under side of  
15 the thill-bearing, substantially as and for the purpose specified.

4. In combination with the axle-clip having the thill mounted thereon, the clip-plate secured to the axle-clip, the spring secured to  
20 the clip-plate, the set-screw to operate the

spring, and the bracket on the upper side of the spring, having an eye, U, to receive the end of the safety-strap, substantially as and for the purpose specified.

5. The clip-plate attached to the axle-clip 25 and having the bracket S, provided with an eye, U, to receive the safety-strap, as set forth.

6. The clip-plate attached to an axle-clip and having a chair, K, on its outer end, and the spring M and bracket S, attached to the  
30 chair by the same bolt, the spring bearing under the thill-iron bearing, and the bracket O, receiving the safety-strap, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in pres- 35  
ence of two witnesses.

HENDERSON MORTON POWERS.

Witnesses:

JOHN SCHAUM,  
H. H. HENSEL.