(No Model.)

R. FAWCETT.

THILL COUPLING.

No. 492,327. Patented Feb. 21, 1893.

Fig 1

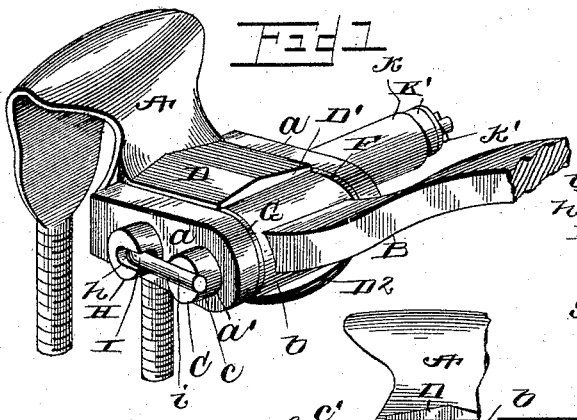


Fig 2

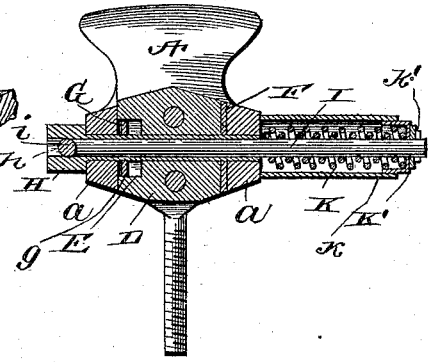


Fig 3

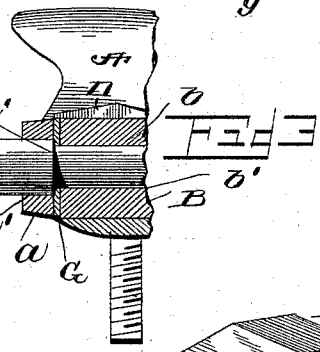


Fig 4

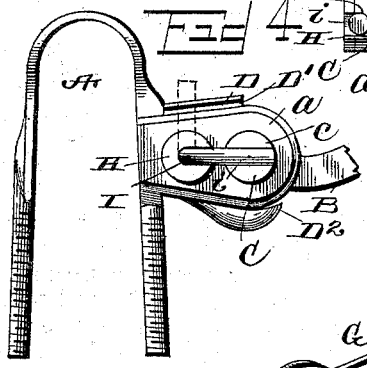


Fig 5

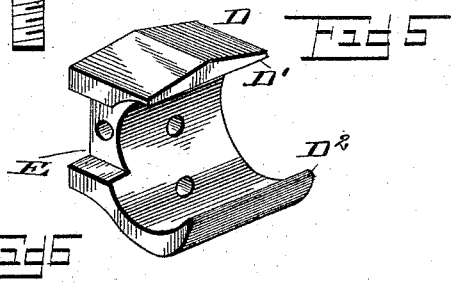


Fig 6

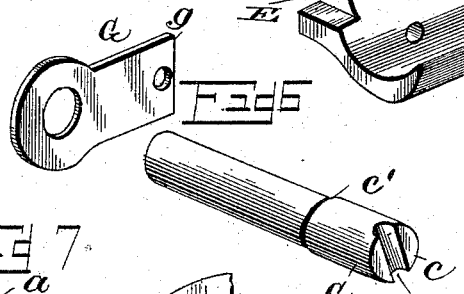


Fig 7

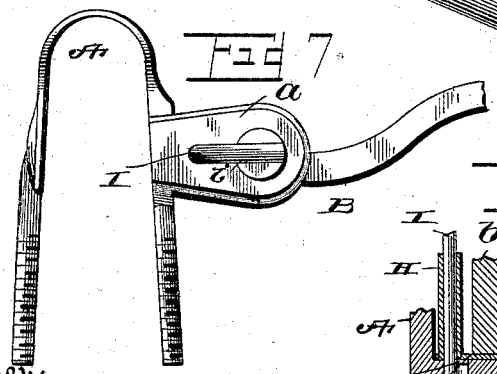


Fig 8

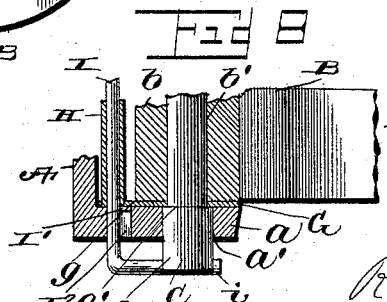
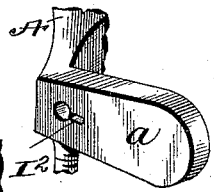


Fig 9



Witnesses

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UNITED STATES PATENT OFFICE.

RICHARD FAWCETT, OF SALEM, OHIO, ASSIGNOR TO WILLIAM H. CLARK, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 492,327, dated February 21, 1893.

Application filed November 19, 1891. Renewed January 12, 1893. Serial No. 458,166. (No model.)

To all whom it may concern:

Be it known that I, RICHARD FAWCETT, a citizen of the United States, residing at Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Thill-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.

My invention relates to certain improvements in that class of thill-couplings in which a threaded bolt and nut are used. My said improved coupling being adapted to be used with any and all classes of vehicles and has for its object to provide means for taking up to a great extent the lost motion arising from wear and also to prevent the coupling from rattling when said couplings become worn.

A further object of my said invention is to increase the durability of the coupling by so constructing the same that mud, dust and water are prevented from reaching or coming in contact with parts of the coupling most liable to become worn. It is also a special object of said invention to provide a safe and convenient coupling pin or bolt in preference to the usual threaded bolt and nut.

A still further object is to provide a rest for the thills holding the eyes of the thill irons in line with the eyes of the lugs of the clips thereby facilitating the operation of placing or removing the coupling pins.

The particular construction, arrangement and combination of the various parts of my said invention, I will now proceed to point out and describe, reference being had to the accompanying drawings, in which

Figure 1 is a perspective view of the coupling. Fig. 2 is a transverse section taken on the line of the locking bar. Fig. 3 is a transverse section taken on the line of the coupling pin, part of the coupling pin being broken away. Fig. 4 is a side elevation of my invention. Figs. 5 and 6 are details of parts of the same. Fig. 7 is a side elevation of a modification. Fig. 8 is a sectional detail of the same, and Fig. 9 a further detail of part of said modification.

Referring to said drawings. A represents a clip of the ordinary construction having the projecting lugs or jaws a, provided with eyes a'. The eye in one lug or jaw being larger than the eye in the opposite lug.

B represents the thill iron having the ordinary rounded head b, provided with an eye b'. Said head resting between the lugs or jaws and having its eye registering with the eyes in said lugs.

C is the coupling pin passing through the eyes in the lugs and thill iron head and provided with an enlarged head c, and shoulder c'. Said enlarged head being seated in the enlarged eye of one of the lugs and is provided on its outer end with a transverse groove or recess c^2, for a purpose hereinafter set forth.

D is a casting fitted between the lugs or jaws and riveted or otherwise secured to the clip. The casting D is provided with an upper, forwardly projecting lip D′, and a lower lip D^2, and has a curved outer face conforming substantially to the rounded head of the thill iron. The lower lip D^2 is longer and projects beyond the upper lip D′.

E is a recess formed in one side of the casting D. The lower projecting part of said casting D forming a resting place for the thill irons holding them in line while the coupling pins are inserted or removed.

F is a washer preferably of hardened steel rigidly secured between one side of the casting and one of the lugs or jaws. G is a similarly constructed adjustable steel washer having a projection g, conforming to the shape of and fitting within the recess in the casting. Said washers engage with the opposite ends of the thill iron head.

H is a sleeve or bearing passing through the lugs or jaws back of the eyes in the same and also passing through the casting D and washers on each side thereof. Said sleeve or bearing is provided with an enlarged end projecting from the side of the lug or jaw in which the head of the thill pin is seated, and is provided with a longitudinal slot h.

I is a locking bar having its end i, bent at right angles thereto. Said bar is mounted in the sleeve or bearing H, the bent end i, projecting from the enlarged end of said sleeve. The opposite end of the bar projecting beyond the opposite side of the coupling.

K is a spring surrounding that portion of the locking bar which projects from the coupling on the side opposite its bent end.

K′ is a cap fitting over the outer end of the spring, *k*, is a washer on the pin on the outside of the cap. Said cap and washer being held in place when the spring is compressed by means of a pin *k*′ passing through the end of the locking bar. The spring is preferably inclosed by a sleeve L. Said sleeve may however be omitted if desired.

The spring K holds the bent end of the locking bar normally within the slot *h*, and when the parts are coupled and the thill pin in place the end *i*, of the locking bar engages with the transverse slot in the head of the thill pin, holding the same in place by the action of the spring, also cause the shoulder *c*′, to engage the adjustable washer G and hold it against the end of the thill iron head thus automatically adjusting the washer G to take up any wear and prevent lost motion and the coupling from rattling. The bent end of the locking bar may be bifurcated or it may have a rectangular eye to engage a suitably formed head on the coupling pin to hold both bar and pin securely in place, but the bar and the slot as shown in the drawings are preferred. To release the coupling pin the locking bar is drawn out against the tension of the spring releasing the bent end *i*, from the head of the coupling pin and from the slot in the sleeve or bearing said pin is then turned as shown in dotted lines Fig. 4 and rests against the outer enlarged end of said sleeve or bearing the tension of the spring holding said pin in an unlocked position. The coupling pin can then readily be removed and the thill detached.

In Figs. 7, 8 and 9 I have shown a modification of my invention in which the casting, adjustable washer and enlarged head of the sleeve or bearing are dispensed with. In this construction the locking bar I is provided with a projecting lug I′ formed on said bar just back of its bent end *i*. Said lug normally rests within a recess I^2 offsetting from the perforation in one of the lugs of the clip. When it is desired to hold said pin in an unlocked position, it is drawn out against the tension of its spring and turned the projecting lug I′ engaging the side of the lug *a* in which the recess I^2 is formed thus holding said locking bar in an unlocked position.

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

1. In a thill coupling, the combination with a clip having projecting lugs or jaws provided with eyes, the eye of one lug being larger than the eye of the opposite lug, a coupling pin having an enlarged head, said head being seated in the enlarged eye and provided with a transverse groove in its outer end, of a locking bar mounted in a bearing parallel to the coupling pin and having one end bent at right angles and adapted to engage the groove in the head of the coupling pin and a spring controlling the longitudinal movement of the locking bar and normally holding its bent end in engagement with the coupling pin, substantially as shown and described.

2. In a thill coupling, the combination with a clip having projecting lugs or jaws provided with eyes, the eye of one lug being larger than the eye in the opposite lug, a thill iron having an eye, an adjustable washer arranged between the thill iron and lug having the enlarged eye, of a coupling pin having an enlarged head, said head being seated in the enlarged eye and adapted to engage the adjustable washer, a spring controlled locking bar mounted in a bearing in the clip and adapted to engage the enlarged head of the coupling pin and hold said pin in a locked position and cause the inner end of the head to engage the adjustable washer to effect an automatic adjustment of said washer, substantially as shown and described.

3. In a thill-coupling the combination with a clip having projecting lugs or jaws, having eyes, the eye of one lug being larger than the eye of the opposite lug, a casting D secured between said lugs and having a curved outer face, a recess E in one side of said casting, a sleeve or bearing H, passing through the clip and casting having an enlarged end provided with a longitudinal slot *h*, an adjustable washer G mounted on the sleeve or bearing H within the recess E, and a coupling pin C, having an enlarged head *c*, provided with a transverse groove c^2, of a locking bar mounted in the sleeve or bearing H and having a bent end *i*, and the spring K controlling the locking pin and holding the bent end of the same normally in engagement, with the head of the coupling pin, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD FAWCETT.

Witnesses:
W. J. CLARK,
I. A. CLARK.