(No Model.)

P. A. REIDY.

THILL COUPLING.

No. 385,374. Patented July 3, 1888.

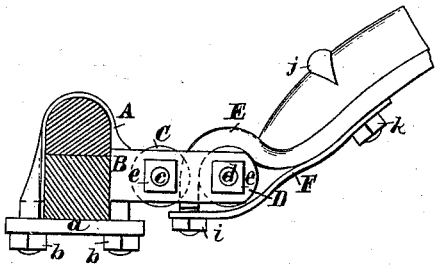

Fig: 1.

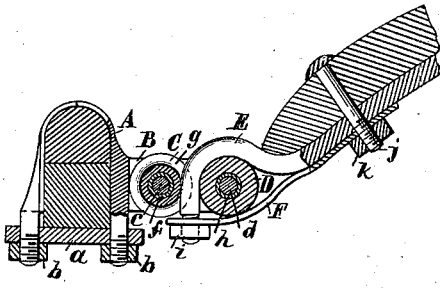

Fig: 2.

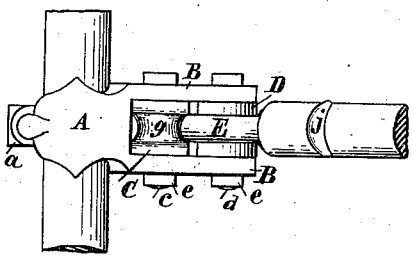

Fig: 3.

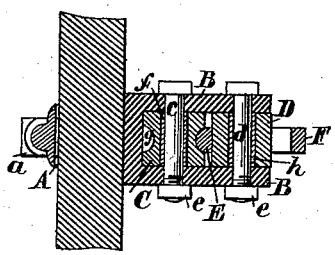

Fig: 4.

Witnesses;
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UNITED STATES PATENT OFFICE.

PHILIP A. REIDY, OF MALDEN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ALBERT M. ELLIS, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 385,374, dated July 3, 1888.

Application filed February 16, 1888. Serial No. 264,307. (No model.)

To all whom it may concern:

Be it known that I, PHILIP A. REIDY, a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Thill-Couplings, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to so couple a thill to an axle that the thill may swing easily and freely, while all such looseness as will cause rattling is prevented.

The invention consists in the novel devices and novel combinations of devices hereinafter set forth, and specifically pointed out in the claims.

In the drawings, Figure 1 shows a side view of a coupling embodying my invention. Fig. 2 shows a vertical central section, Fig. 3 a plan, and Fig. 4 a horizontal section, of the same.

To the clip A, fastened in the usual manner to the axle by means of a clip-plate, *a*, and nuts *b b*, are joined two lugs, B B. These lugs are preferably formed as one piece with the clip and present parallel inner faces. Two pivots, *c* and *d*, which may be bolts held in place by nuts *e*, as shown, extend transversely through the lugs B at suitable distances from the clip and from each other.

Between the lugs and on the pivot *c* is a roller, C, formed mainly of an elastic material, preferably rubber. This roller is provided with a metallic bushing, *f*, to move on the pivot, and has a circumferential groove, *g*, at about midway its length. On the pivot *d* is a roller, D, which is preferably of rubber, provided with a metallic bushing, *h*. This roller D may, however, be formed of any suitable material, rigid or elastic.

A portion of the thill-iron E which extends beyond the end of the thill is curved substantially as shown, and so that a part thereof will follow the line of a circle which has—when the thill-iron is in position in the coupling—the same center as the roller D. The underside of the circular part of the thill-iron conforms to the surface of the roller D, and the other side enters the groove *g* of the roller C. At the end the thill-iron extends in the direction of a tangent to said circle, and has formed thereon a thread for a nut, *i*. A strap, F, having a hole for the end of the thill-iron and a hole for a bolt, *j*, is pressed against the under surface of the roller D and held firmly to the thill-iron by means of the bolt *j* and nuts *i* and *k*. This strap may be made of steel and somewhat elastic, if desired. The rollers C and D are of such diameters that the thill-iron which is between them is pressed considerably thereby, and also each of the rollers against its pivot. The rollers are of such length relative to the space between the lugs B that endwise motion of the rollers is prevented. Thus the thill-iron and all parts of the coupling will be so closely confined that there cannot be any rattling thereby, while the thill may be easily swung, since when the thill is swung the rollers will be caused to simply rotate on their pivots and the thill-iron to roll on the roller C.

I claim as my invention—

1. In a thill-coupling, the combination of the clip, two parallel lugs thereon, and two rollers pivoted between said lugs, said rollers being located so as to receive a thill-iron between them, and one of said rollers having a circumferential groove to receive the thill-iron, substantially as and for the purpose set forth.

2. The combination of the clip A, provided with lugs B B, rubber roller C, roller D, pivots *c* and *d*, thill-iron E, and strap F, substantially as described.

3. The combination of the clip A, provided with lugs B B, roller C, having a circumferential groove, roller D, thill-iron E, formed to partly surround the roller D, and the strap F, substantially as described.

4. The combination of the clip A, provided with lugs B B, roller C, having a metallic bushing, roller D, and pivots *c* and *d*, said rollers being suitably formed and located to receive and press upon a thill-iron between them, substantially as set forth.

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Witnesses:
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