(No Model.)

G. E. SMITH.

THILL COUPLING.

No. 305,539. Patented Sept. 23, 1884.

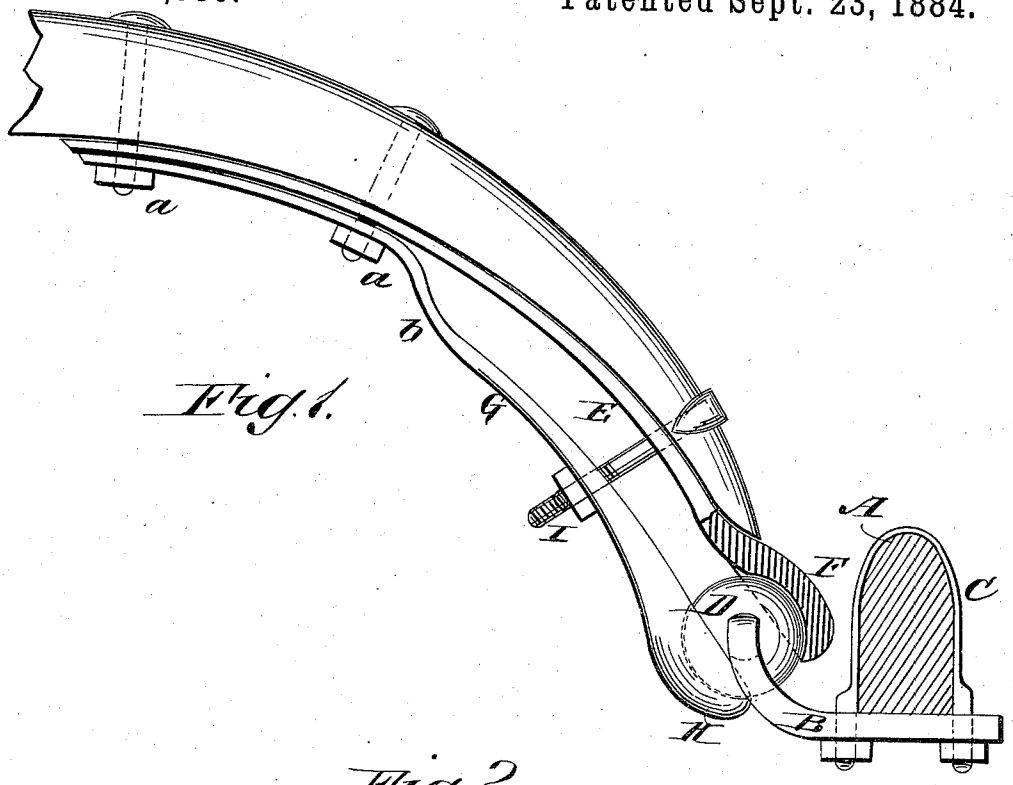
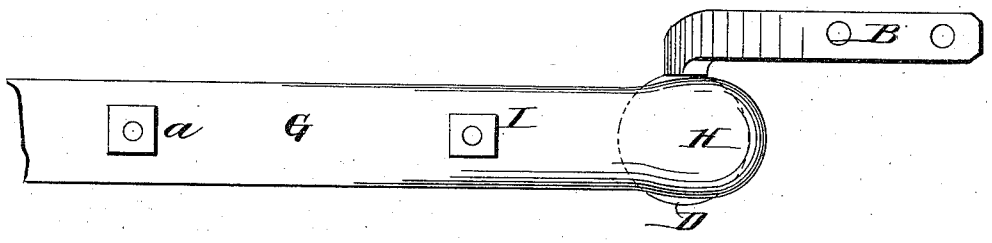


Fig. 1.

Fig. 2.



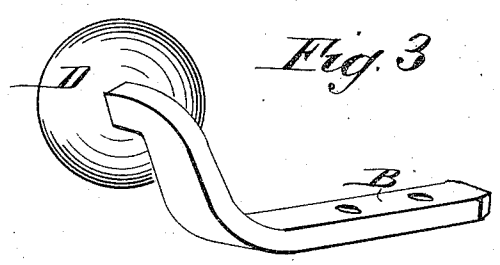


Fig. 3

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE E. SMITH, OF NEWARK, OHIO.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 305,539, dated September 23, 1884.

Application filed March 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. SMITH, of Newark, county of Licking, Ohio, have invented a new and Improved Pole and Shaft Shackle, of which the following is a full, clear, and exact description.

The object of my invention is to provide a shackle for poles and shafts of vehicles, which may be readily connected or disconnected to admit of the change from pole to shafts, or the reverse.

My invention consists in the construction and arrangement of parts, as will be hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, partly in section, showing the application of my improvement. Fig. 2 is an inverted plan view, and Fig. 3 is a perspective view, of the ball and the arm by which it is supported.

To the axle A an arm, B, is secured by a clip, C, and extends forward and is curved upward and bent at right angles parallel with the axle, and carries at its extremity the ball D. To each arm of the rear end of the shaft or pole is secured a clamp composed of the curved spring-steel bar E, fitted to the under surface of the shaft or pole, and provided with an enlarged end, F, having in its under surface a cavity fitted to one side of the ball D. The spring-steel bar G is attached to the pole or shaft by the bolts *a*, which also secure the bar E. The bar G is offset at *b*, and has an enlarged end, H, in which is formed a cavity fitted to the side of the ball D. A T-headed bolt, I, passes through the wood of the shaft or pole and through the spring-steel bars E G, and is capable of drawing the ends of the two bars together upon the ball D.

My improved shackle prevents all rattling of the shafts, and requires no rubber or leather filling. It may be readily disconnected by loosening the nut on the bolt I, and may be readily made fast by screwing up the nut. Wear is taken up in the same way.

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

1. The combination of the arm B and its ball with spring-arms E G, secured to the under side of the shaft or pole by bolts, and formed with cups F H at their ends, and an adjusting-bolt, I, for clamping the spring-arms together, substantially as set forth.

2. The combination of the arm B, curved upward, and provided with a ball, D, at right angles thereto, with the spring-arms E G, formed with cups F H, the arms G having an offset at *b*, and the clamping-bolt I, passing through the two spring-arms in rear of the cups, substantially as set forth.

GEORGE E. SMITH.

Witnesses:

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