(Model.)

J. S. WELCH.

Thill Coupling.

No. 232,580. **Patented Sept. 21, 1880.**

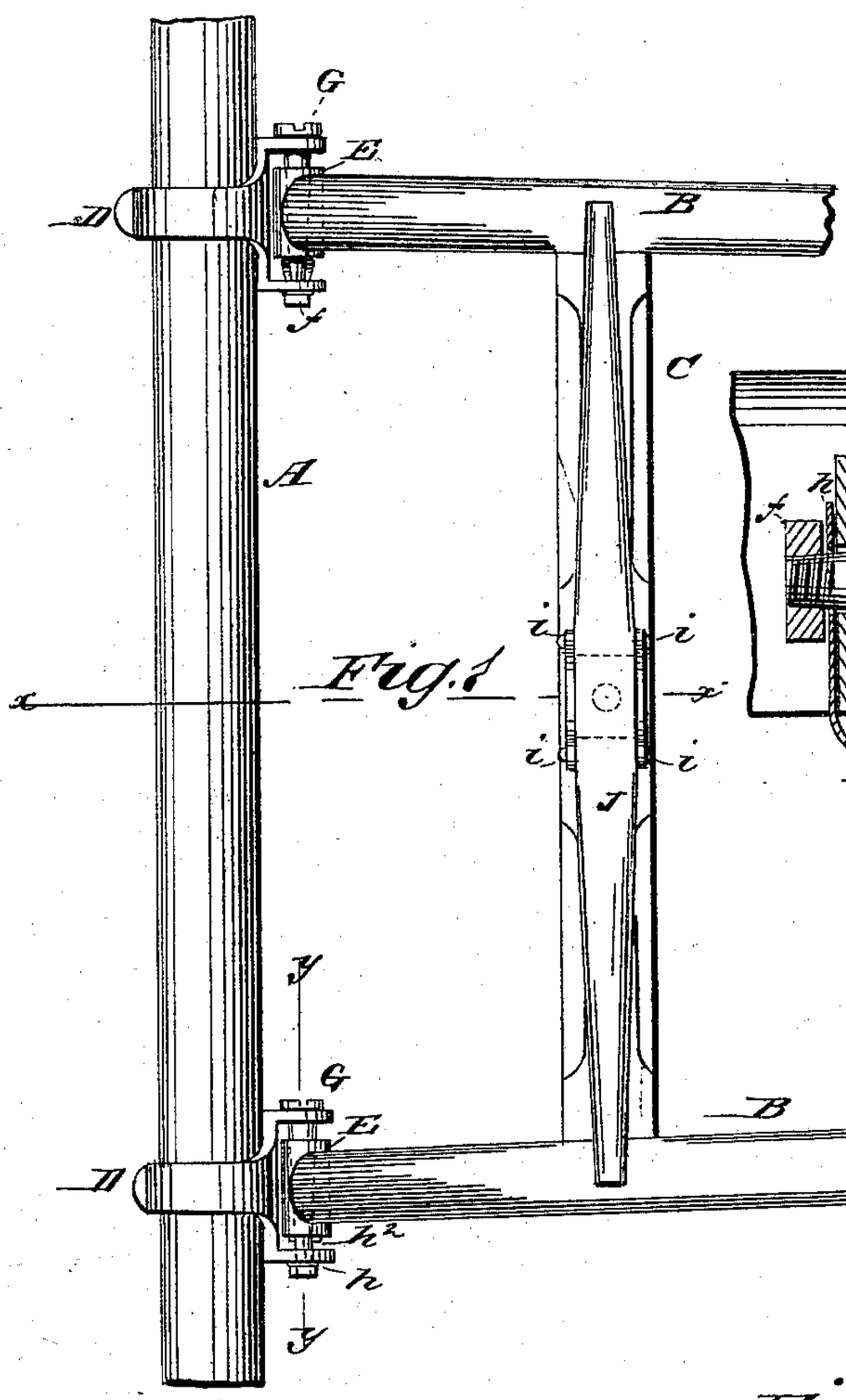


Fig. 1

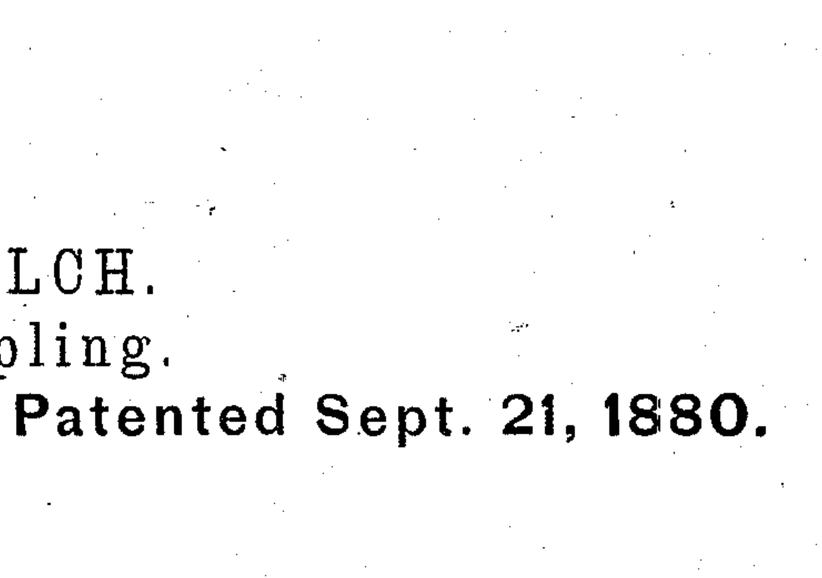
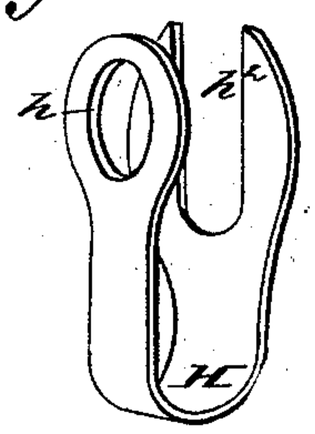


Fig. 3

Fig. 4



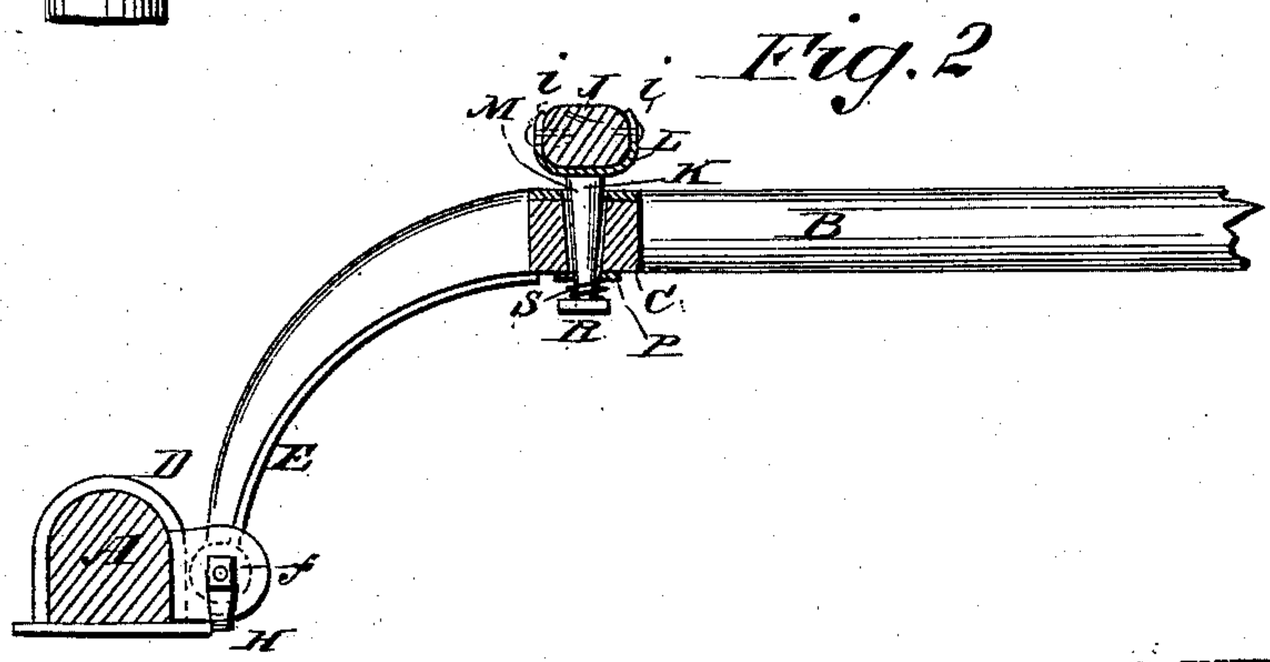


Fig. 2

WITNESSES:

Francis McArdle.

C. Sedgwick

INVENTOR:

J. S. Welch

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES S. WELCH, OF DODGE CITY, KANSAS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 232,580, dated September 21, 1880.

Application filed July 9, 1880. (Model.)

To all whom it may concern:

Be it known that I, JAMES SUMNER WELCH, of Dodge City, in the county of Ford and State of Kansas, have invented a new and useful Improvement in Carriage-Clips, of which the following is a specification.

My invention relates to a mode of attaching thills to axle-trees.

In the accompanying drawings, Figure 1 is a top view illustrating my invention. Fig. 2 is a vertical section taken in the line *x x* of Fig. 1. Fig. 3 is a vertical section taken in the line *y y* of Fig. 1, and in a direction transversely to Fig. 2. Fig. 4 is a detail view.

A represents the axle-tree of a carriage of any suitable description; B B, the thills, and C the cross-bar connecting the rear portions of the thills. D is the axle-clip, which may be of the usual or any suitable description.

E is the thill-iron, which may also be of the usual description, with this exception: the socket or portion which receives the coupling-bolt is tapering instead of cylindrical, and the bolt is of corresponding tapering form. The tapering coupling-bolt G is passed through the lugs of the axle-clip D and through the socket of the thill-iron E, and secured by a nut, *f*, in the usual manner.

H (see Fig. 4) represents a spring, which is formed of a strip of elastic sheet metal bent double about midway of its length. At one end of the spring is an eye, *h*, and at the other end is a fork, h^2. When the spring is in place for use the eye *h* fits over the end of the bolt G, between the nut *f* and the outer side of one of the lugs of the clip D, and the fork h^2 straddles the bolt G between the inner side of said lug and the contiguous side of the thill-iron E, so as to have a tendency to force the bolt G and the thill-iron E in opposite directions rectilinearly with relation to the longitudinal axis of said bolt. By this arrangement and combination of the spring with the bolt, the clip, and the thill-iron, the bolt is made to constantly fit nicely in the socket, rattling is prevented, and the wear of the bolt and socket is automatically compensated for.

The portion of the bolt near the head may be squared to prevent it from turning.

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

In thill-couplings, the V-spring H, having a fork, h^2, at one end, to straddle the bolt between the inner side of clip-lug and the contiguous side of clip, while the other end is secured between nut *f* and said clip-lug, as shown and described.

JAMES SUMNER WELCH.

Witnesses:

L. E. DEYER,

A. H. SNYDER.