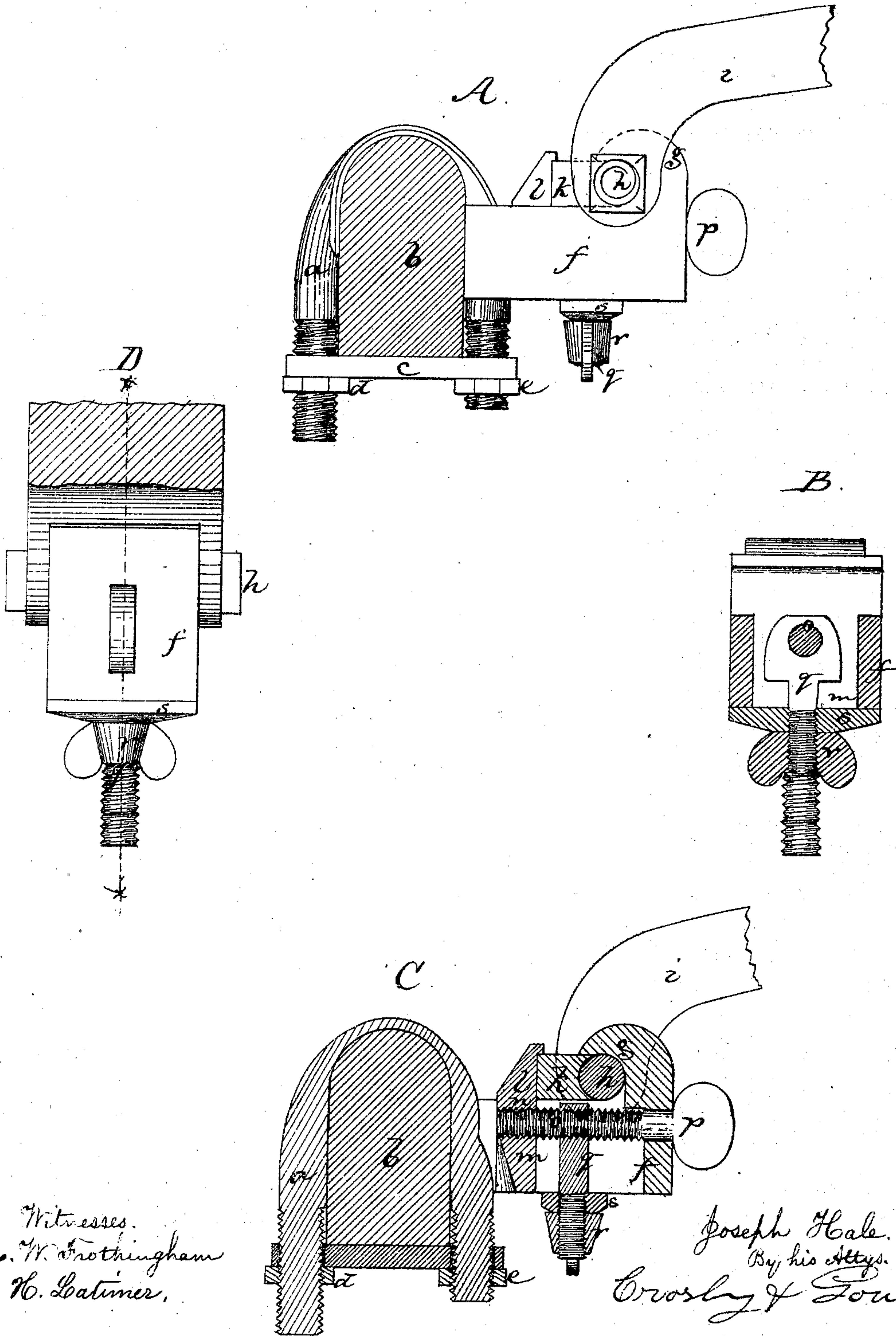


JOSEPH HALE.

Improvement in Thill Coupling.

No. 120,640.

Patented Nov. 7, 1871.



Witnesses.
M. W. Frothingham
S. W. Latimer,

Joseph Hale.
By his Attys.
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UNITED STATES PATENT OFFICE.

JOSEPH HALE, OF SOMERVILLE, MASSACHUSETTS.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. 120,640, dated November 7, 1871.

To all whom it may concern:

Be it known that I, JOSEPH HALE, of Somerville, in the county of Middlesex and State of Massachusetts, have invented an Improved Carriage-Shaft Clip; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to the construction of a shaft-clip or coupling for connecting a carriage-shaft to its axle. In my invention I use, in connection with the metal loop which embraces and is bolted upon the axle-tree, a metal box having an upwardly projecting and overhanging hook or bearing, into which the shaft-bolt is pressed, and in which it is held by a chock forced up against the bolt by a clamp-bar or jaw resting and sliding upon the box and having a nut-threaded tail piece passing through the box, the clamp or jaw being drawn forward or thrown backward by a horizontal screw passing through the box into the tail-piece of the jaw, and there being on the shank of the jaw-operating screw a nut-threaded bolt having a screw-threaded shank projecting down through the box, a nut on the bottom of this shank drawing down the shank, the nut operating against a cross-bar or washer under the box. By loosening this last nut the strain of the bolt upon the jaw-operating screw is removed, and said screw may then be operated to force the jaw away from the chock or up against it, while by tightening the bolt-nut the bolt will exert a strain upon the jaw-bolt and prevent it from turning. It is this specific construction that constitutes my invention.

The drawing represents a clip or shaft-coupling embodying the improvement.

A shows the coupling in side view. B is a cross section on the line *x x*. C is a central vertical section. D is an end view. *a* denotes the loop embracing the axle *b*, and fastened thereto by a plate, *c*, and nuts *d e*, working on the screw-threaded ends of the loops and against the plate

c. From the loop, and forming an integral part of it, extends a box, *f*, having at its end opposite the loop an upwardly-projecting and overhanging hook or seat-piece, *g*, into the recess or hook of which the bolt *h* of the shaft *i* enters, as seen at C. One side of the bolt thus entering the bolt recess, the opposite side has bearing against it the chock *k*, pressed against the bolt by a clamp-jaw, *l*, resting and sliding upon the box, and having a tail piece, *m*, extending down through the box, as seen at C, this tail piece having a nut-thread, *n*, into which works the screw-threaded shank *o* of a jaw-screw, *p*, which passes through the end of the box, as seen at C. By this screw the jaw is forced up against the chock and presses the latter against the shaft-bolt, or is forced back from the chock to loosen the shaft-bolt or permit its removal. Under the chock *k* is the bolt *q*, having a nut-threaded eye, through which the shank of the screw *p* passes and works, and the shank of this bolt extends down through the box, and has a screw-threaded lower end projecting beyond the box, a nut, *r*, working on the bolt and drawing it down, the nut bearing upon the washer-plate *s* extending across the bottom of the box. When the nut *r* is loose the screw *p* can be freely turned and the jaw forced toward or away from the chock; but when the nut *r* is tightened a downward stress is exerted upon the jaw-screw *p* and no movement of the screw, the jaw, or the chock can take place. By this means not only may the shaft be securely fastened to the axle and as readily detached therefrom, but the parts are so connected that they cannot possibly become accidentally loosened and cannot rattle.

I claim—

The shaft-coupling or clip, having a construction and arrangement of parts, substantially as shown and described.

JOSEPH HALE.

Witnesses:

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