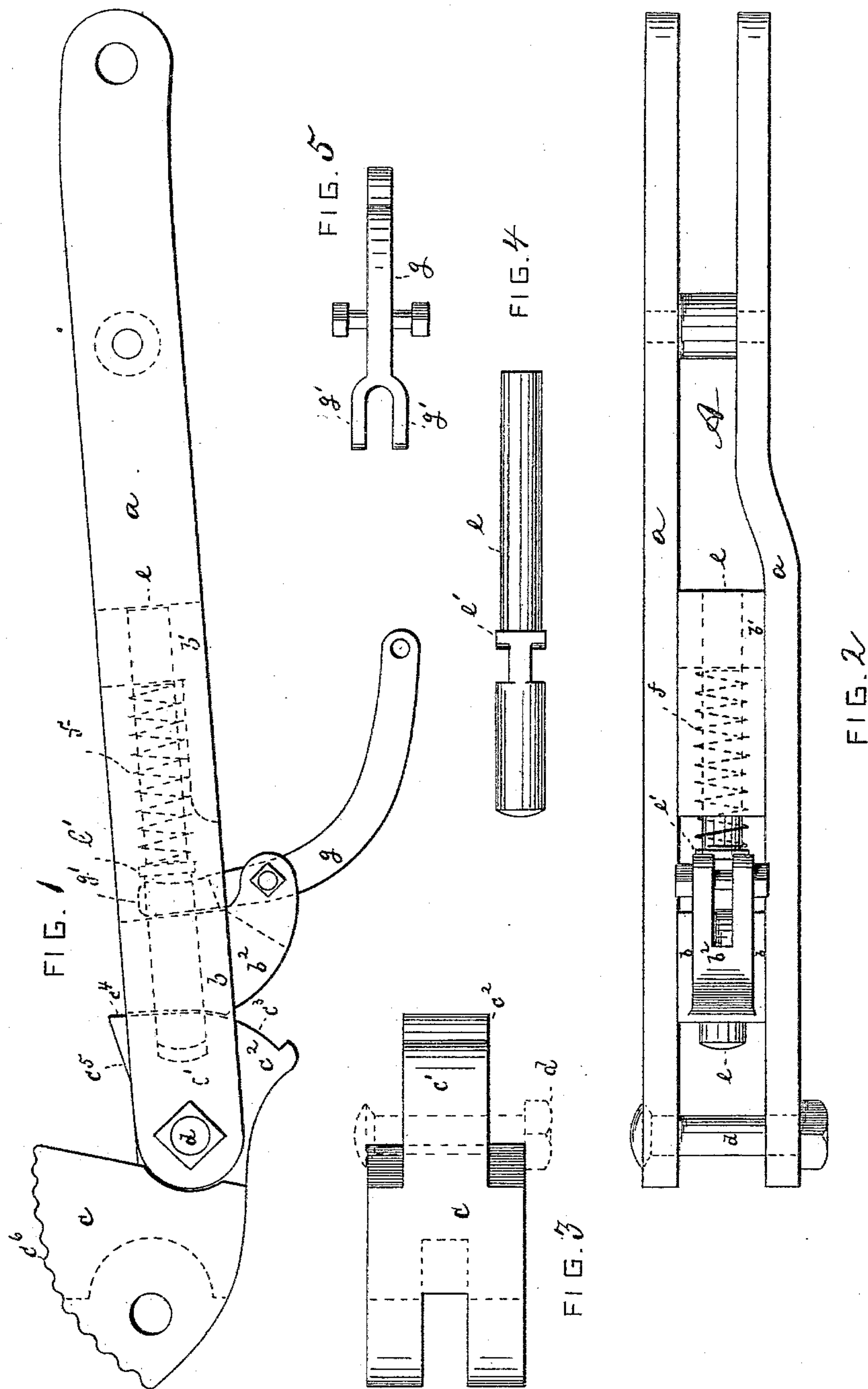


(No Model.)

F. A. FOX.
CAR COUPLING.

No. 384,312.

Patented June 12, 1888.



WITNESSES.

Wm. A. Lowe
Walter Erig

INVENTOR,

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by his attorneys
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UNITED STATES PATENT OFFICE.

FRANK AVERILL FOX, OF NEW YORK, ASSIGNOR TO CHARLES E. BISHOP,
OF BROOKLYN, NEW YORK, AND RODERICK S. BEERS, OF BRIDGEPORT,
CONNECTICUT.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 384,312, dated June 12, 1888.

Application filed March 16, 1888. Serial No. 267,304. (No model.)

To all whom it may concern:

Be it known that I, FRANK AVERILL FOX, of New York city, New York, have invented a new and Improved Car-Coupler, of which the following is a specification.

This invention relates to various improvements upon Letters Patent No. 367,613 granted to me August 2, 1887.

The invention has for its object to increase the effectiveness of the coupler and to improve the working of its different parts. The invention consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a top view of my improved car-coupler. Fig. 2 is a side view of the draw-bar; Fig. 3, a side view of the draw-head; Fig. 4, a side view of the bolt, and Fig. 5 an end view of the operating-lever.

The draw-bar A is composed of a top and bottom bar, *a a*, connected by cross-pieces *b b'*, to which the bars *a a* are riveted. The cross-piece *b* is set back from the forward end of bars *a*, so that the latter constitute a pair of jaws, between which the shank *c'* of draw-head *c* is pivoted by pin *d*. The shank *c'* is slotted or perforated at its edge, and this perforation is engaged by the forward end of a sliding bolt, *e*, that is guided by and passes through perforations in the cross-pieces *b b'*. Between these cross-pieces the bolt *e* is surrounded by a coiled spring, *f*, abutting at its rear end against cross-piece *b'* and at its forward end against a shoulder, *e'*, on bolt *e*. Forward of such shoulder the bolt *e* is embraced by the forked end *g'* of the operating-lever *g*. This lever is pivoted to a peculiar extension of the forward cross-piece, *b*. This extension *b''* constitutes in effect a lug projecting beyond the top and bottom bars *a* and entirely clearing such bars.

It will be seen that by oscillating the lever *g* it will force the bolt *e* out of engagement with the draw-head and permit the latter to swing on its pivot. As the lever *g* is released, the spring *f* will throw the bolt *e* forward to re-engage the perforation in the draw-head as soon as the latter is in line with the bolt.

The shank *c'* of the draw-head *c* has a lateral hook-shaped extension, *c''*, which limits the motion of the draw-head when opening by striking against the lug *b''*. To prevent the draw-head from closing beyond its proper position—that is, from turning too far inward on its pivot—I have made the rear edge of shank *c'* of peculiar shape—that is to say, the edge of the shank is curved from hook *c''* to the perforation that is engaged by the bolt, as shown at *c''*, while forward of said perforation the edge is entirely straight, as shown at *c''*. This straight section *c''*, as will be readily understood, bears against the forward side of cross-piece *b* when it is attempted to turn the draw-head inward any farther than until its perforation is in line with bolt *e*. Thus the motion of the draw-head in both directions is limited. At the side opposite to the extension *c''* the shank *c'* has an extension, *c'''*. In the act of coupling, the draw-head of one car, after having passed the draw-head of the opposite car, will strike this extension *c'''* and force the coupling in line and into engagement with its bolt. To aid in this action I also corrugate the face *c''* of the draw-head from end to end. This causes the draw-heads in passing to friction tightly against each other and to swing themselves in line.

What I claim is—

1. The combination of top and bottom bars *a a* and of perforated cross-pieces *b b'*, the cross-piece *b* having lateral extension *b''*, with the draw-head *c*, sliding bolt *e*, and spring *f*, the sliding bolt *e* having shoulder *e'*, and with the operating-lever *g*, pivoted to extension *b''*, and having a forked end, *g'*, that engages bolt *e*, substantially as specified.

2. The combination of draw-bar A with a sliding bolt, spring, and operating-lever, and with a pivoted draw-head, *c*, having a corrugated face, *c''*, substantially as specified.

3. The combination of draw-bar A, having the cross-piece *b*, that is provided with lateral extension *b''*, and of sliding bolt, spring, and operating-lever, with a pivoted draw-head, *c*, having the lateral hook-shaped extension *c''*, that is adapted to engage the extension *b''*, substantially as specified.

4. The combination of a draw-bar, A, with
a sliding bolt, spring, and operating-lever, and
with a pivoted draw-head, c, having a perfo-
ration for engagement with the sliding bolt,
5 the edge of the draw-head being straight at
one side of the perforation and being curved
and hook-shaped at the other side of the per-
foration to limit the motion of the draw-head
in both directions, substantially as specified.

FRANK AVERILL FOX.

Witnesses:

HENRY E. ROEDER,
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