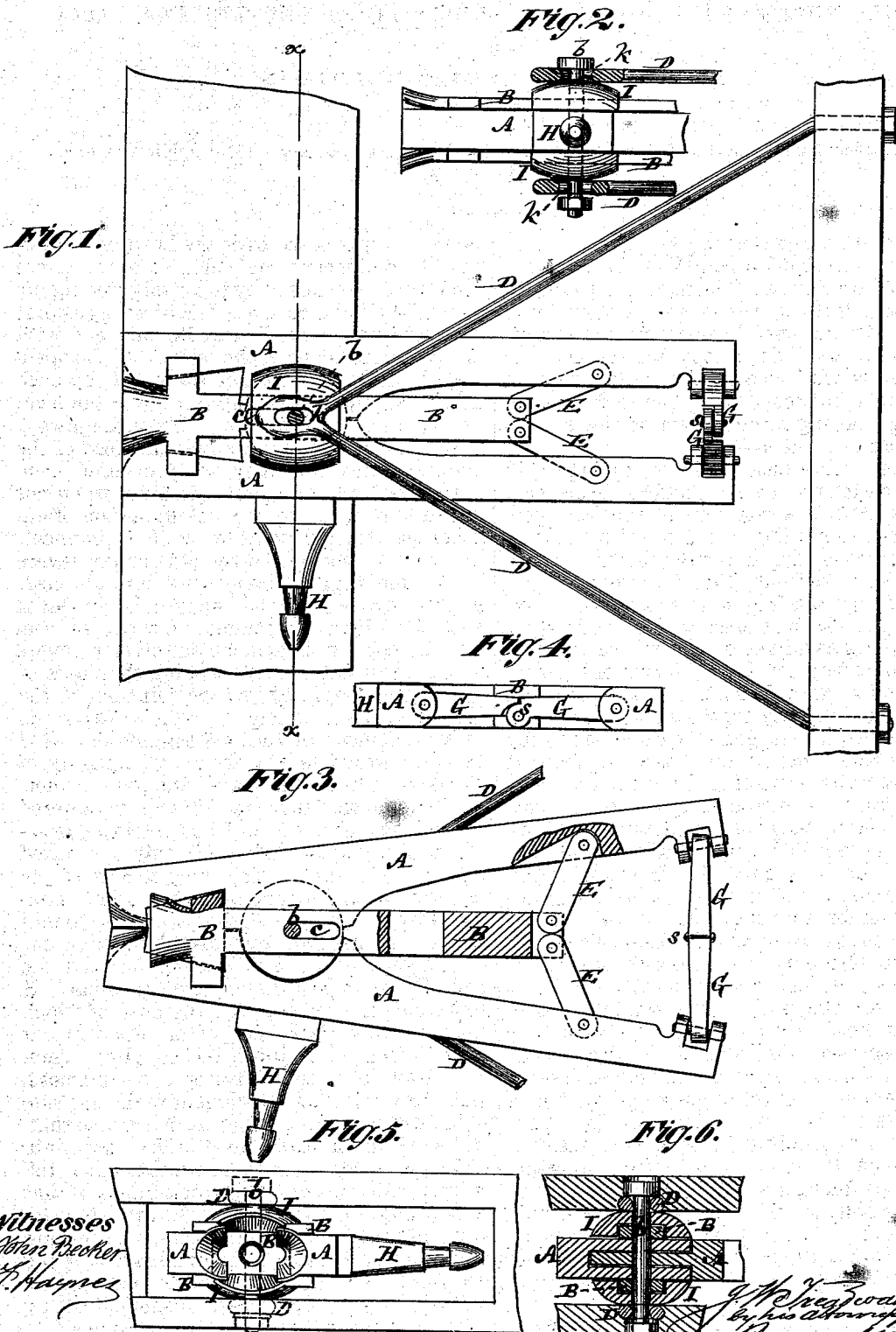


J. W. TREADWAY.
Car-Couplings.

No. 158,543.

Patented Jan. 5, 1875.



Witnesses
John Becker
C. H. Hayes

J. W. Treadway
by his attorney
Brown & Allen

UNITED STATES PATENT OFFICE.

JAMES WILLSON TREADWAY, OF CROWN POINT CENTRE, NEW YORK.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **158,543**, dated January 5, 1875; application filed December 1, 1874.

To all whom it may concern:

Be it known that I, JAMES WILLSON TREADWAY, of Crown Point Centre, in the county of Essex and State of New York, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a plan of my improved coupling with the jaws of the draw-head open in front; Fig. 2, a side view of the front portion of the same; Fig. 3, a plan with the jaws closed in front; Fig. 4, a rear view of the jaws when closed in front; Fig. 5, a front view of the coupling, and Fig. 6 a vertical section on the line *xx*. Each of these several views show the coupling as adjusted to form a draw-head.

The invention consists of a pair of horizontally-pivoted jaws forming a draw-head and bumper, and having toggle-levers for operating the same, to disengage the draw-bar on the adjacent car. One of said jaws is provided with a laterally-projecting draw-bar, and both of said jaws are mounted upon a center bolt or pin, whereby they may be rotated or turned around said pin for bringing either of the jaws into position to engage the draw-bar on the adjacent car, or the draw-bar on said jaws into position for entering between the jaws of the adjacent car, as hereinafter described. The invention also consists in certain novel constructions of details and combinations of parts whereby the efficiency of the coupling, either as a draw-head or draw-bar, is increased.

A A represent the jaws of the draw-head. These jaws are arranged horizontally to swing or play around a center-pin or king-bolt, *b*, and are closed by the head of the draw-bar of an adjacent car-coupling striking and pushing back a slide, B, which is extended backward beyond the fulcrum or king-bolt *b* of the jaws, said king-bolt, which is braced by longitudinally-slotted diagonal braces D D passing through longitudinal slots *c* in the upper and lower portions of the slide B, where the latter is made double or slotted to pass over and under the joint or fulcrum portions of the jaws, the bolt *b*, by its passage through the slots *c*, serving to guide the slide B in its action. The

jaws A A are closed over the head of a draw-bar of an adjacent car, when said bar forces backward the slide B by the straightening action of the links or levers E E of a toggle-joint connecting the slide B near its back end with the rear extensions of the jaws A A, the opening of said jaws in rear of the bolt *b*, by such action, closing the jaws in front over the head of the operating draw-bar. When the jaws A A are thus closed in front over the head of the coupling draw-bar, they are prevented from closing behind and opening in front, when not required to do so, by the locking action of another set of toggle-joint levers, G G, connecting the rear portions of the jaws or jaw-levers A A, said toggle-joint, when straightened, slightly dipping at the junction of its lever with the joint-pin *s*, connecting the latter, below the centers of attachment of said levers to the jaws, and with the locking-shoulders or lips of the toggle above the joint-pin of the levers, as shown in Fig. 4. This construction or arrangement of the jaw toggle-joint G G not only prevents any accidental opening of the jaws in front, but leaves the jaws in their rear when closed in front. When it is required to open the jaws A A in front, then the levers G G of the rear toggle-joint are raised or flexed upward by a crank acting upon a chain at the junction of said levers, or by any other suitable means. This closes the jaws A A behind and opens them in front also, by flexing the toggle-joint levers E E, pushes forward the slide B, and expels the released draw-bar. H represents a draw-bar, over the head of which the jaws of a draw-head of an adjacent car close in front to establish the coupling, when said draw-bar is set to project for the purpose. This draw-bar is an attachment to the one side of the draw-head or jaws A A, in front, so that, by swinging the draw-head on its center-pin or king-bolt *b* to a position at right angles, relatively with the car or its truck-frame, to that represented for it in Fig. 1, the draw-bar, instead of the draw-head, becomes the coupling device for such car. This combination of the draw-head and draw-bar affords increased facility for coupling the cars, inasmuch as, by such combination, each car carries at one and the same end of it both the male and female portions of the coupling, and which are read-

ily adjustable the one in place of the other, as required to establish the connection. The jaws A A of the draw-head are clasped or bound above and below at their joint by clamps I I, having convex outer surfaces, and through which the center-pin or king-bolt *b* passes.

These convex clamps provide for an up-and-down adjustment of the combined draw-head and draw-bar, to connect cars having their couplings at different heights, the bolt *b* being at liberty to work in or along the slots *k* of the braces D D during such adjustment. The same devices, together with the free fit of the head of the draw-bar within the draw-head, also contribute to provide for a universal motion of the coupling to meet all exigencies.

The clamps I I are grooved on their inner faces to form guiding-surfaces for the slide B, as shown in Fig. 6.

I claim—

1. The horizontal pivoted jaws A A, forming a draw-head and bumper, having toggle-joints to open and close the same, and a lateral draw-bar, H, in combination with a fixed center pin or bolt, *b*, upon which the said opening and closing jaws may be rotated, substantially as and for the purpose described.

2. The combination of the toggle-joints G G and E E, the fulcrate jaws A A, and the slide B, essentially as described.

3. The combination of the convex clamps I I with the fulcrate jaws A A and a center-pin or king-bolt, *b*, substantially as specified.

JAS. WILLSON TREADWAY.

Witnesses:

ALEMBERT POND,
W. B. FRENCH.