(No Model.)

2 Sheets—Sheet 1.

W. PIERCY.

CAR COUPLING.

No. 302,865. Patented July 29, 1884.

Fig. 1.

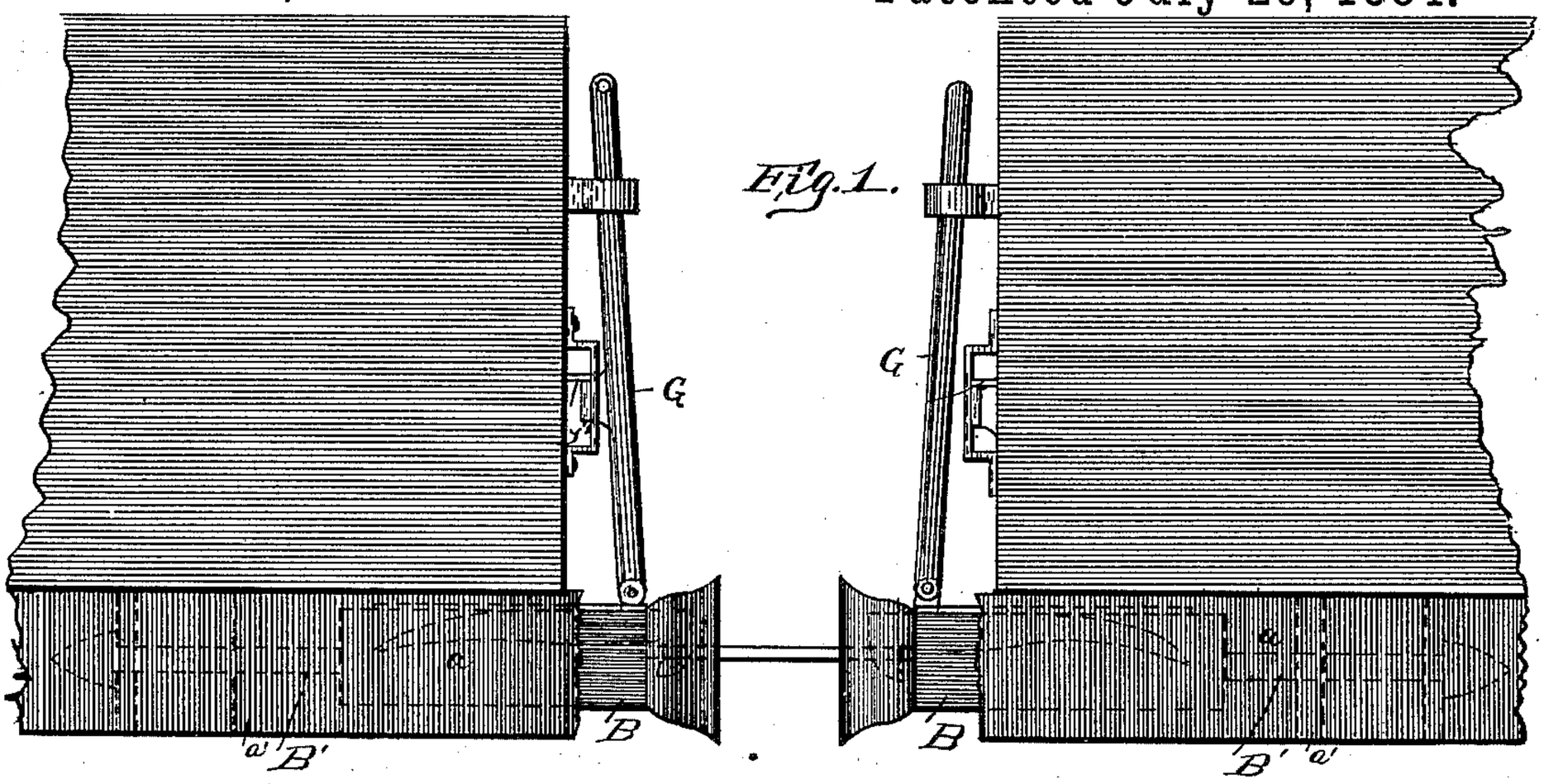
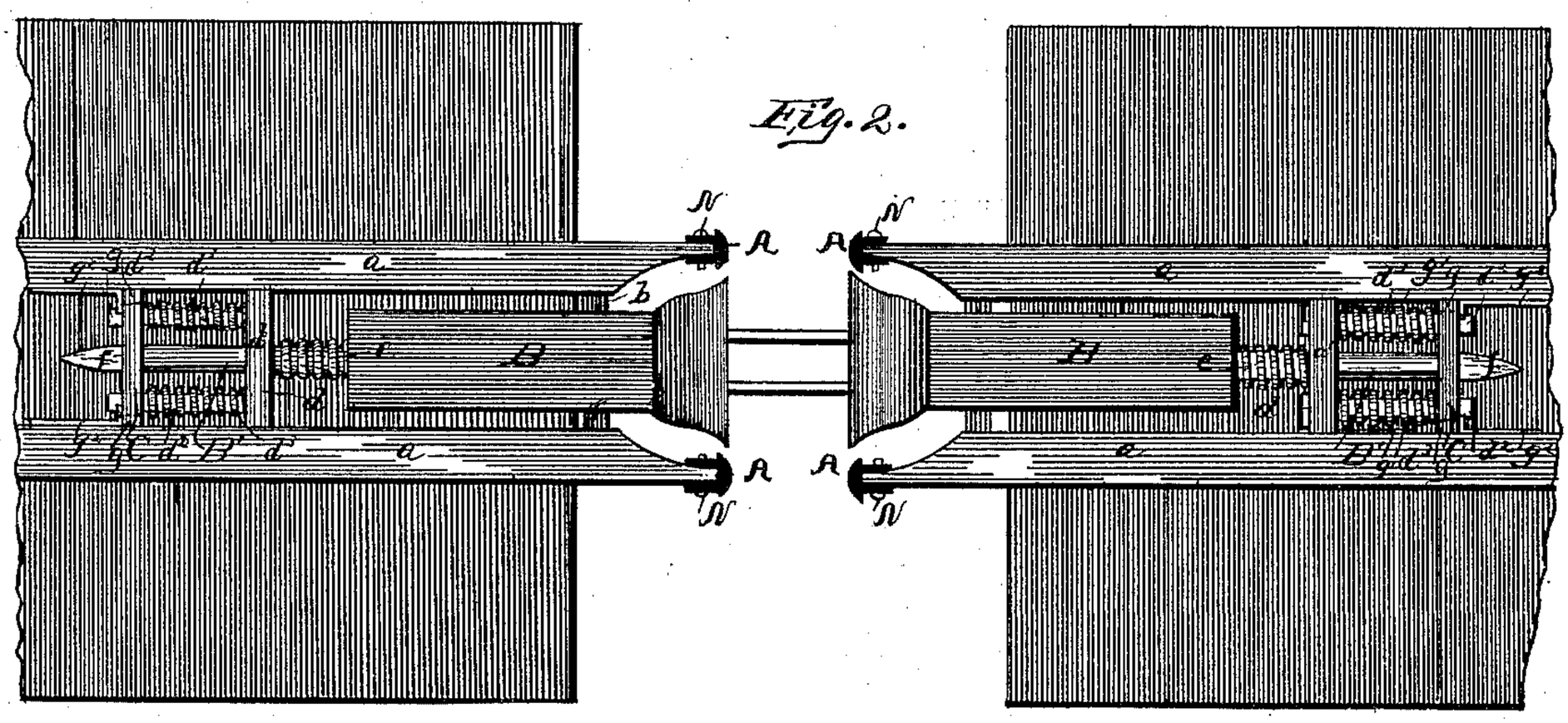


Fig. 2.



WITNESSES

H. M. Cheem

Nolan Melvill.

INVENTOR

William Piercy

By Myers & Co

Attorneys.

(No Model.) 2 Sheets—Sheet 2.

W. PIERCY.

CAR COUPLING.

No. 302,865. Patented July 29, 1884.

Fig. 3.

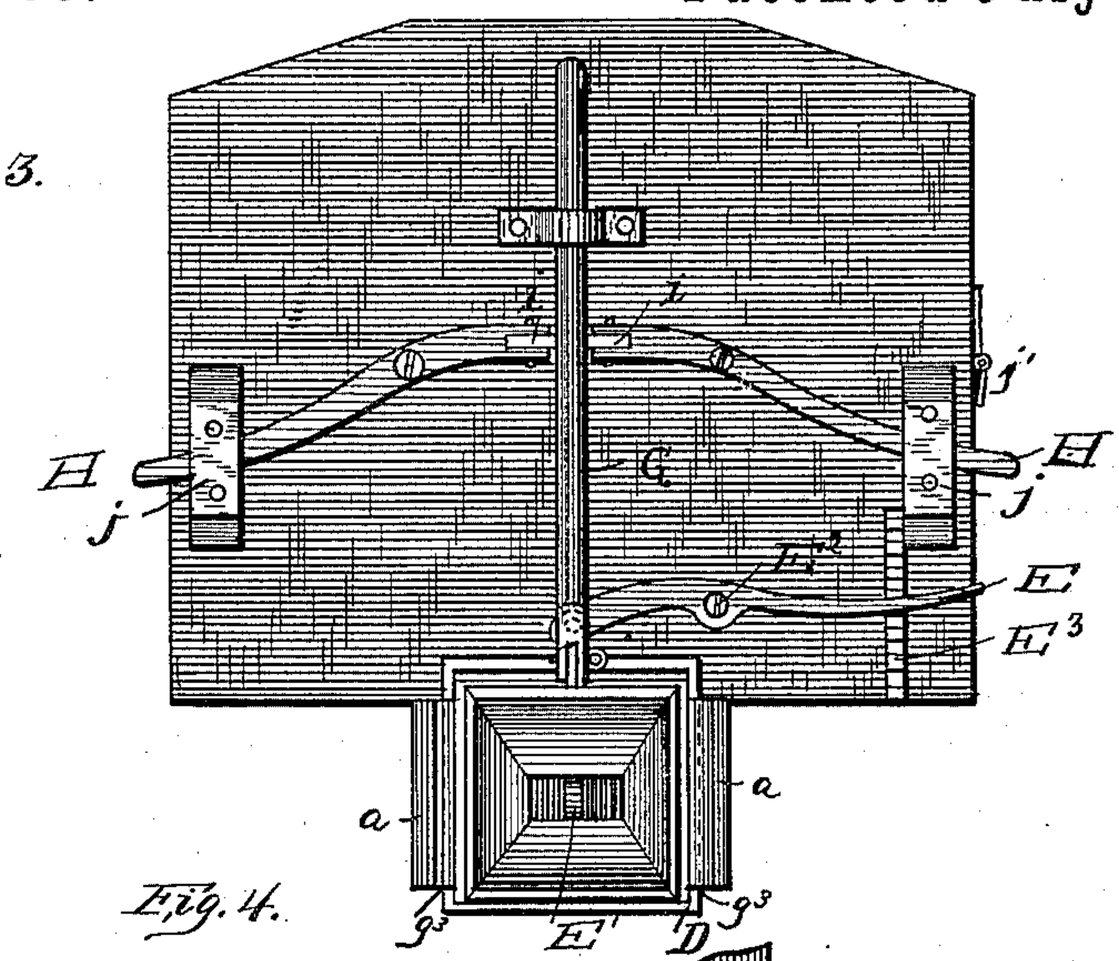


Fig. 4.

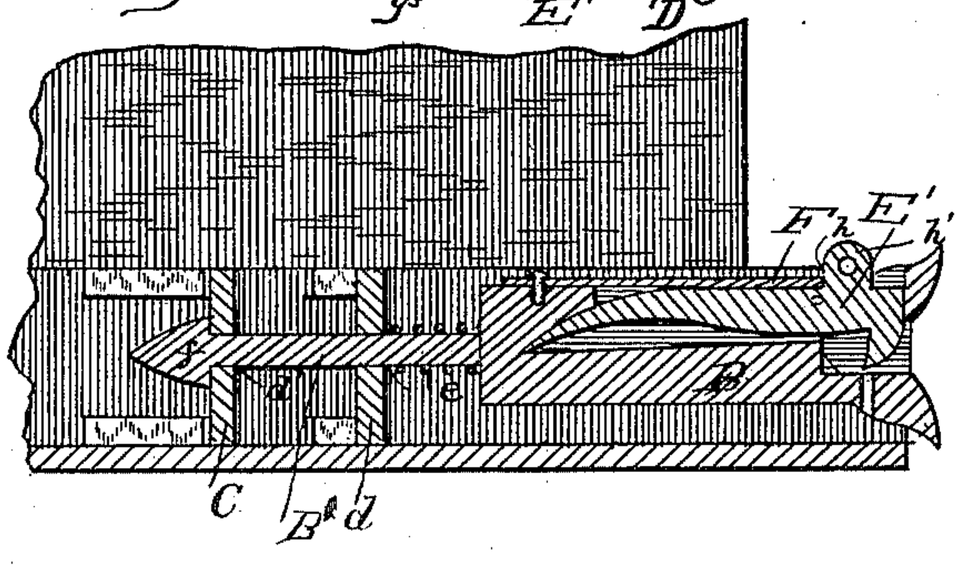
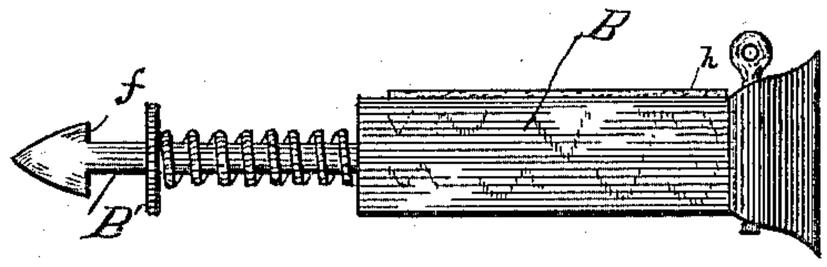


Fig. 5.



WITNESSES

L. M. Rheem

Nota McGill.

INVENTOR

William Piercy

By Myers & Co

Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM PIERCY, OF CARTHAGE, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 302,865, dated July 29, 1884.

Application filed April 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PIERCY, a citizen of the United States of America, residing at Carthage, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

Among other objects attained by this invention are, while allowing for the use of the ordinary coupling pin and link, to adapt the draw-head to be coupled to another of different as well as of the same height; to effect the ready locking or holding of the coupling as well in an uncoupled position as coupled; to render the draw-head readily yielding, either when subjected to a pulling strain or upon the bumping together of two draw-heads, and to permit, in the event of the derailment of a car, the automatic detachment of a draw-head to prevent the derailed cars from pulling off with it the connected cars.

This invention consists of the combinations of parts and their construction, substantially as hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of portions of two cars with my invention applied thereto in a coupled position. Fig. 2 is a plan view of the same. Fig. 3 is an end view of a car with the coupling thereon. Fig. 4 is a longitudinal section of the coupling, and Fig. 5 is a view showing the draw-head detached from the car.

In the organization of my invention I suitably affix to the bottom of the car, at each end, two pendent edgewise-disposed side pieces, *a a*, with their rear ends united by a cross-piece, *a'*, while their forward ends may be reduced a short distance longitudinally, and project beyond the end of the car to serve in the capacity of a buffer, and to the lower edges of which is fastened, at its ends, an approximately staple-shaped cross-bar, *b*. Within the open bottom inclosure thus formed is disposed the draw head or bar B, with its rear end formed with a cylindric stem or rod, B', bearing in an apertured transverse partition, *d*, of said inclosure or receptacle, and encircled between a shoulder thereon and said partition by a spring, *e*, which holds the draw-head sufficiently projected beyond the forward or outer ends of said inclosure or receptacle to permit, upon the bumping together of two such draw heads or bars, the latter to yield inwardly, and thus overcome concussion and prevent the liability of the breaking of said draw head or bars. Beyond the partition *d* the rod or stem B' of the draw-bar passes through an aperture or slot, *d'*, in a plate or cross-head, C, to which it is connected detachably. Said aperture or slot is narrower in one direction than the width of a head or shoulder, *f*, formed upon that end of said stem or rod to retain the draw head or bar in place when in its working or normal position; but in its other direction said slot or aperture is slightly wider than the greatest width of said head, so that in the event of the draw bar or head or the car changing their relative position one to the other, as would happen in the event of the derailment of the car, the greatest width of said head of the draw-bar stem will come into alignment with and pass through said aperture, and permit the draw bar or head to be automatically detached from the car, thus preventing the derailed car from pulling off with it the car previously connected to it.

The plate or cross-head C slides upon rods d^2, nutted or bolted to the partition *d*, and is pressed rearwardly by springs d^3, arranged upon said rods; and said plate or head C has upon its side edges projections or studs *g g*, which move in guides *g'*, composed of plates with flanged longitudinal edges, said projections being limited in their rearward movement by stops or angular plates g^2, fastened to the inner sides of the draw-bar-containing receptacle or inclosure. The object of this arrangement of parts is to enable the draw bar or head to yield or move to a limited extent outwardly as it is subjected to a pulling strain or force, to relieve the cars of a sudden jerking motion, and to prevent the liability of the breaking of the draw-bar.

The forward part of the draw head or bar B rests normally upon the cross-bar *b*, and passes through or is embraced by a frame, D, which is somewhat larger than the cross-section of the draw bar or head, to allow the lat-

ter to conform to the vibrations or movements of the car without affecting the frame. Said frame is adapted to slide vertically in grooves g^3 g^3 in the inner sides of the receptacle or inclosure formed by the side pieces, *a a*, and to said frame is connected, for effecting its vertical adjustment to accordingly affect the draw-head, the hand-lever E, pivoted to the end of the car, as seen in Fig. 3; or to it may be connected two levers reaching to the sides of the car. The outer end of the lever E, which is pivoted at E^2 to the car, is secured by the rack E^3, to effect the securing of the draw head or bar adjusting frame in a locked elevated or other position, as may be desired. This adjustment of the draw bar or head permits, while allowing the use of the ordinary link and pin, the raising and lowering of the draw head or bar to adapt it to receive the draw-bar of a car of a different as well as of the same height as itself.

E′ is the coupling-hook, which has a long horizontal shank and rests in a corresponding longitudinal opening in the draw bar or head, said opening extending into the head of said bar, into which extension the beak of said hook fits, the outer beveled surface of said beak being presented toward the outer open end of the draw-bar, into which the link of the approaching car or draw head or bar is received, said link being thus caused to force, automatically, its way beneath the beak of the hook, when the coupling of the cars will be effected. The coupling-hook is held in place as against vertical displacement by means of the strong, preferably flat, spring F, secured directly over the opening containing said hook, its rear end being secured longitudinally adjustably to that end of the draw-bar, while its other end is slotted, as at *h*, to receive a projection, *h′*, of the hook, the spring resting upon the hook upon each side of said projection.

To the projection *h′* of the hook which is apertured is articulated the lower end of a vertical rod, G, adapted to slide upon the end of the car, and having about equidistant between its ends—one projecting from each side—apertured studs *i*, to which are pivoted the bifurcated or pronged inner ends of two hand-levers, H. These levers are apertured near their outer ends and pass through serially-apertured clips or keepers *j*, secured to the end of the car, near or at the corner edges thereof, into any one of which and the aperture of either lever may be inserted a pin, *j′*, which may dangle by a chain from the car, to effect the retention in a locked or fastened position the coupling-hook, either elevated out of engagement with the link or depressed in engagement with the link. The outer end of the draw bar or head is beveled or tapered toward its central opening, to readily guide or conduct the link thereinto in effecting the coupling operation; also, should the link happen not to be able to freely enter the draw-head chamber through said central opening, or not be quite in alignment with said end of the draw-head or aperture, the difficulty can be overcome by adjusting the draw head or bar accordingly higher or lower.

If desired, of the two spring-connections of the draw-bar, only that permitting the rearwardly-yielding movement of the latter may be used, while in lieu of the serially-apertured clips or keepers obliquely-slotted racks may be used to hold the coupling-hook and draw-bar-adjusting frame-levers at their points of adjustment.

It will be observed that the hook is detachably connected to the draw-head in order that it may be dispensed with when necessary and removed, and an ordinary coupling-pin be used in place of it.

In the accompanying drawings, A A represent elastic or gum glove-bumpers, which are fitted on the front ends of the longitudinal bars *a*, and secured thereon by the transverse nutted bolts N, projected through orifices therein. These bumpers are molded into glove form, as shown in Fig. 2, and serve to greatly relieve the strain and jar to which railroad-cars are subjected; but I do not confine myself to this special construction of the elastic buffer, as it may also be employed otherwise constructed and secured to the cars.

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

1. In a car-coupling, the combination of the draw-head, with its outer portion capable of vertical adjustment by means of frame D, and held in any desired position by means of the hand-lever E, and rack E^3, substantially as shown and described.

2. In a car-coupling, the draw head or bar disposed in an inclosure or receptacle secured to the under side of the car or platform, said draw-bar being provided with a headed stem at its rear end, which stem passes through an aperture or slot in a cross head or plate of the draw-bar-containing receptacle, said aperture or slot being of a greater width in one direction than the greatest width of said head, substantially as and for the purpose set forth.

3. The elastic or glove bumpers A, fitted on the front ends of bars *a*, and secured by transverse nutted bolts N, for relieving the strain and jar of the cars, substantially as shown and described.

4. The combination of the draw-head B, having a cylindric rod or stem, B′, coupling-hook E′, secured by spring F, and rod G and its adjusting connections, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM PIERCY.

Witnesses:
J. NOTA MCGILL,
H. A. HALL.