No. 617,446. Patented Jan. 10, 1899.

J. PURSER.

DOUBLE ACTION COUPLING ATTACHMENT FOR RAILWAY ROLLING STOCK.

(Application filed Sept. 3, 1898.)

(No Model.) 2 Sheets—Sheet 1.

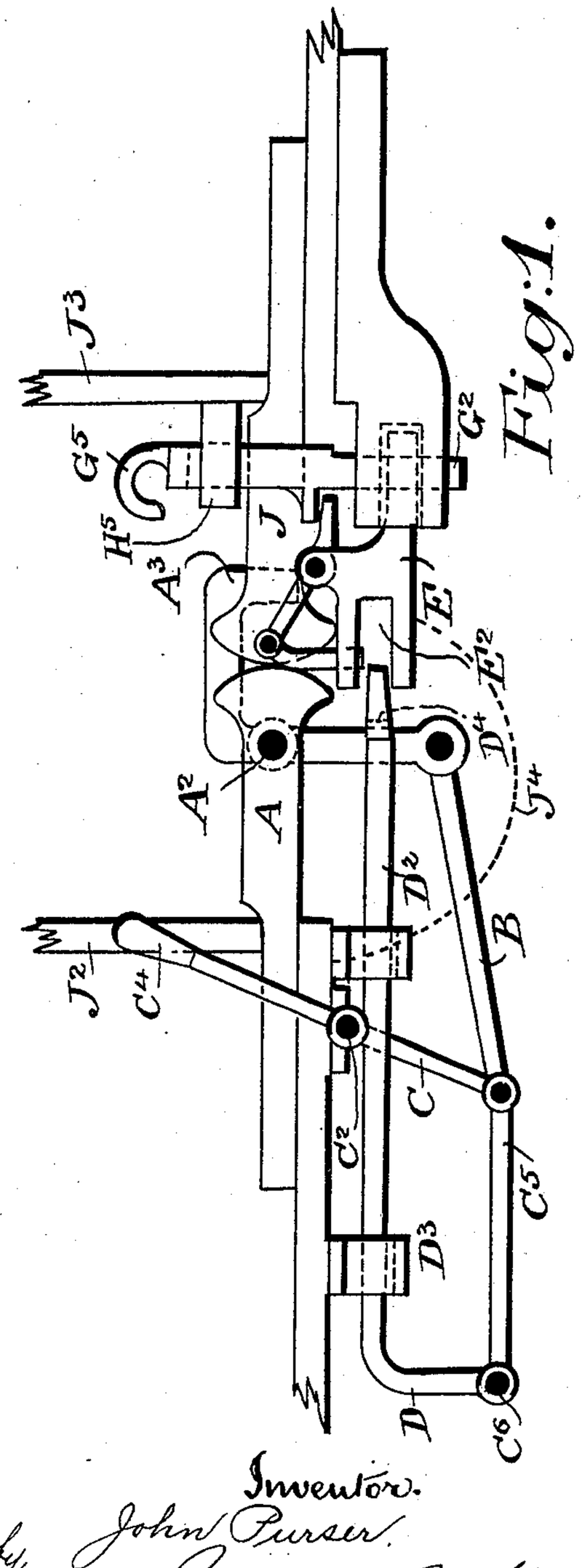

Fig. 1.

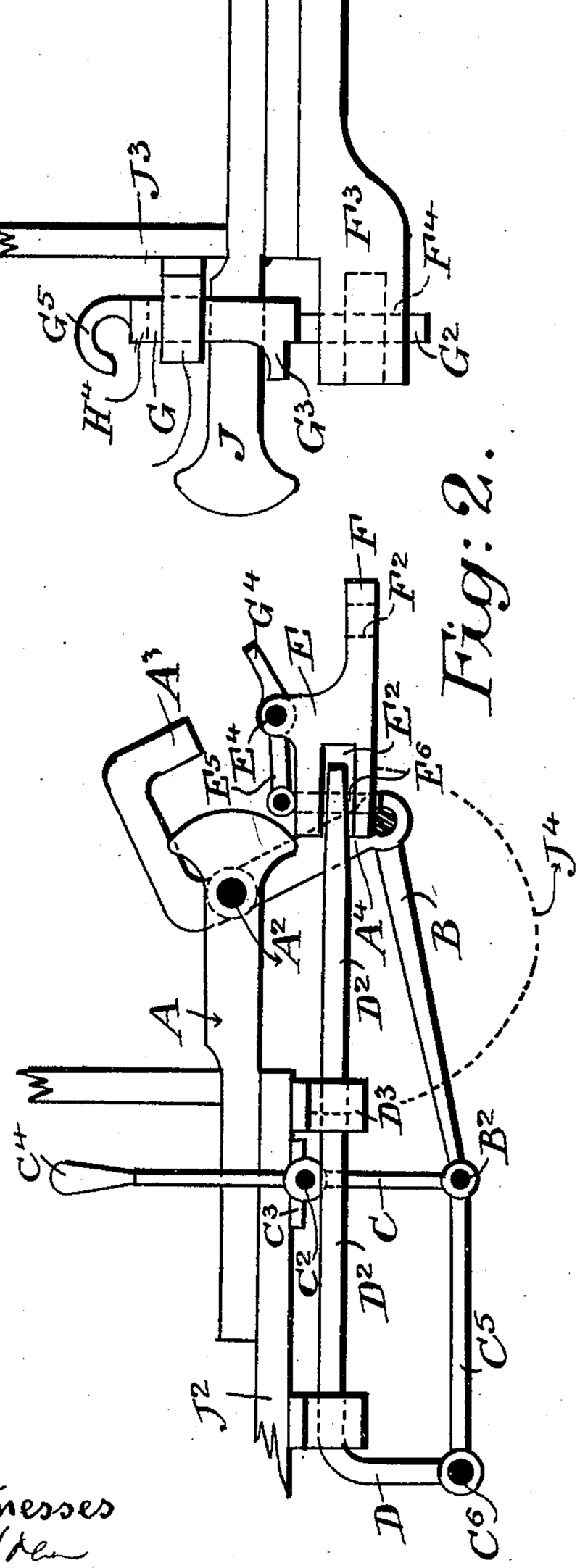

Fig. 2.

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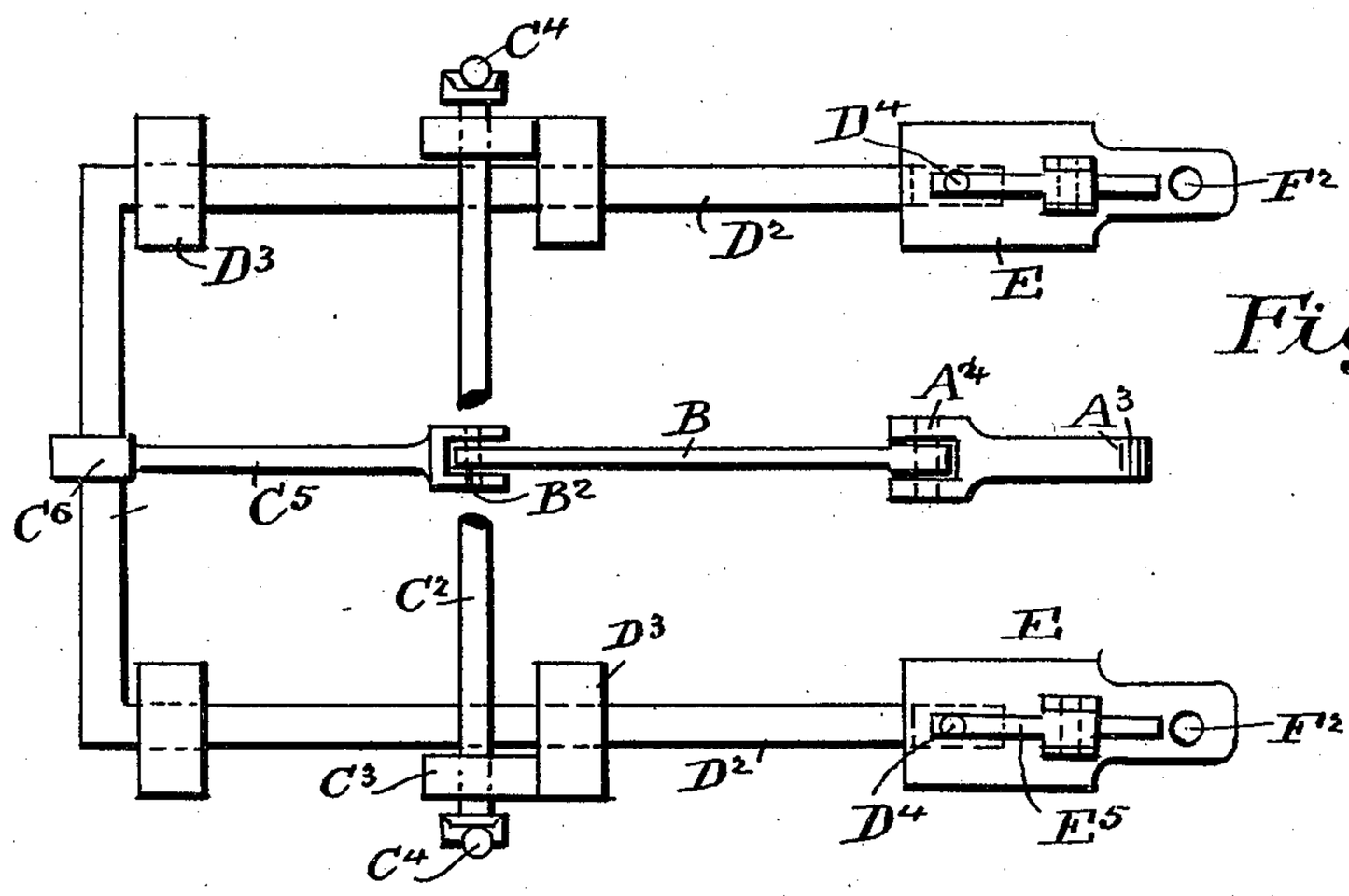


Fig:3.

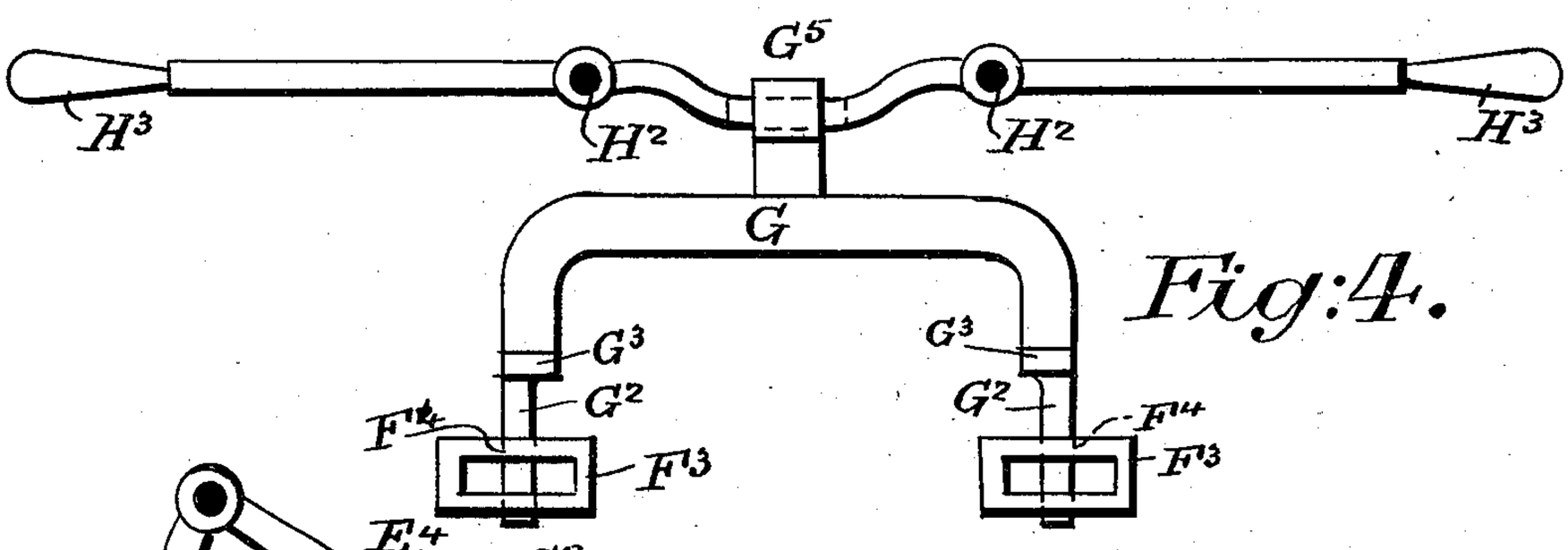


Fig:4.

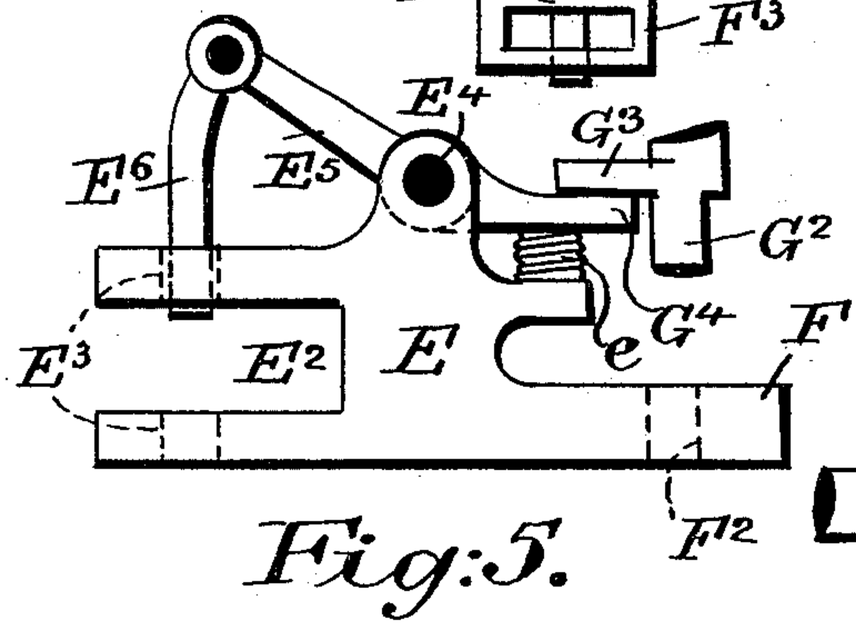


Fig:5.

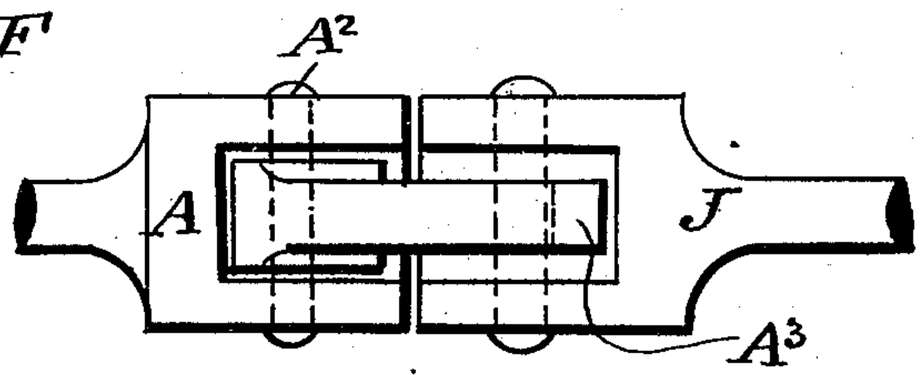
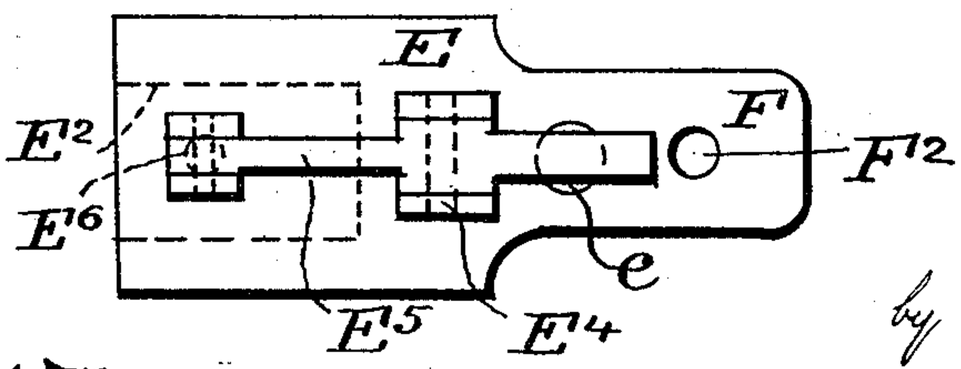


Fig:6.



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UNITED STATES PATENT OFFICE.

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DOUBLE-ACTION COUPLING ATTACHMENT FOR RAILWAY ROLLING-STOCK.

SPECIFICATION forming part of Letters Patent No. 617,446, dated January 10, 1899.

Application filed September 3, 1898. Serial No. 690,225. (No model.)

To all whom it may concern:

Be it known that I, JOHN PURSER, a citizen of Great Britain, and a subject of Her Majesty Queen Victoria, residing at York road, East Northam, in the Colony of Western Australia, have invented certain new and useful Improvements in Double-Action Coupling Attachments for Railway Rolling-Stock; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide means whereby railway carriages, trucks, or other such like vehicles may be coupled together without any necessity of the shunter going between the carriages. In other words, both the coupling and uncoupling action is effected from a position outside of the line of rail.

This invention essentially consists, first, in the means provided whereby the link-coupling is interlocked with and unlocked from the retention-buffer of the fellow carriage, and it, secondly, consists in the means provided whereby the guard-chains, with their attached shuttles, are connected with and disconnected from the fellow carriage.

The apparatus is of a double nature or action, although such action is not mechanically concurrent, as will be hereinafter explained.

To clearly understand this invention, reference may be made to the accompanying drawings.

Figure 1 is an elevation showing the invention as in position when the carriages are connected and ready for traveling—that is, both coupled and with the guard or safety chains attached. Fig. 2 is also an elevation showing the position of the apparatus when the carriages are uncoupled. Fig. 3 is a plan view of the mechanism for actuating the bars which draw away the shuttles to which the guard-chains are primarily attached. Fig. 4 is an end view of the mechanism for locking the chain-shuttles in their shoes, which latter are attached to the opposite or fellow carriage of the draw-bars. Fig. 5 is a detail view of the chain-shuttle, and Fig. 6 is a similar view of the link and buffer-heads.

In the drawings, A represents the buffer, on which is pivoted, as at A^2, the coupling-link, having a nose or detent formation, as A^3. This coupling-link is formed with the downward extension, as A^4, which at its termination is attached to the connecting-rod B. This rod B is further connected by the junction-pin B^2 to the vertical bar or lever C, which latter is pivoted to the transverse bar C^2, which is suitably mounted in bearings C^3 underneath the floor of the carriage or truck. The bar C at its upper termination is provided with a suitable actuating handle-piece, as C^4.

Reverting to the junction-pin B^2, to which is also connected the intermediate bar, as C^5, the latter bar at its outer end is connected at C^6 to the extension-piece D of the longitudinal draw-bars D^2. These draw-bars D^2 work longitudinally in their bearings D^3, which are also affixed underneath the floor of the carriage. These draw-bars at their working end are formed with holes D^4, whose purpose is hereinafter referred to. It will thus be seen that the handle-bar C^4 upon operating lifts the coupling-link and at the same time draws back or retreats the bars D^2.

E are the chain-shuttles, having the openings E^2, into which the ends of the draw-bars D^2 proceed, and said shuttles are formed with the holes E^3. On this shuttle is pivoted, as at E^4, the lever E^5, which carries the linked pin E^6 for retaining and locking the shuttle E on the bar D^2 by such pin E^6 proceeding right down through the holes E^3 in the shuttle and through the hole D^4 in the draw-bar, with the result that such shuttle is secured and locked for the special purposes of carrying away the chains when the carriages are uncoupled. The small lever E^5 is provided with the spring *e*, so as to send the pin E^6 well home.

The shuttle E is formed with an extension-piece, as F, in which is formed the retention-hole F^2. This extension-piece F proceeds into the shoe F^3, which latter is attached to the carriage. Said shoe is also formed with retention-holes F^4, which are in alinement with the hole F^2 in the shuttle extension-piece. The mechanism for locking the chain-shuttle to its shoe consists of the arch-piece G, whose lower ends terminate in bolt formations, as G^2, which bolts proceed through the

holes F^4 and F^2, as above referred to. On this arch-piece G are provided projections G^3, which engage with the thumb-piece formations G^4 of the small pivoted lever E^5 above mentioned. This arch-piece G is made with a hook, as G^5, which engages with the ends of transverse levers H, pivoted at H^2 to the end of the carriage, and said levers are provided with actuating-handles H^3, as shown. This arch-piece is so constructed and arranged that it returns to the home position immediately upon the levers H being released. H^4 are the guide-bearings for this arch-piece G.

J is the companion buffer to that of A, and this buffer J is formed with a suitable catch for engaging with the link A^3 in the ordinary manner.

J^2 represents the truck to which the pivoted link and the draw-bars are attached, and J^3 is the truck to which the shoe for the chain-shuttle belongs.

J^4 represents the safety guard-chain.

The method of using this invention is as follows: Assume the carriages are in the position as shown in Fig. 2 and it is desired to couple them, as shown in Fig. 1. The arch-piece G is lifted up by its handles H^3 to such an extent and retained by stops or pins in the ordinary manner, so as to allow the bolt extensions G^2 to be clear, so as to permit the shuttle E to enter the shoe F^3. The carriages J^2 and J^3 are then brought together in the ordinary manner and to such an extent that the buffers meet face to face, and also the extension-piece F of the shuttle E enters into its shoe F^3 on the opposite carriage J^3. The handle C^4 is then operated by being depressed to the position as shown in Fig. 1, which, by the agency of the intermediate mechanism, brings the pivoted link home to its locked position and its detent A^3 engages securely with the buffer J. The handles H^3 are now released, so that the bolt ends G^2 of the arch-piece G enter and proceed both through the holes F^4 in the shoe F^3 and the hole F^2 in the shuttle extension F, thereby retaining such shuttle E, which, with its chain J^4, is now securely attached to the carriage J^3, as shown. It is obvious that concurrent with the bolts G^2 entering the shoe F^3 the small pin E^6, by means of its lever E^5 and the projection G^3, is withdrawn, so allowing the shuttle E to draw from off the draw or carrying bar D^2. In order to uncouple, a reverse action takes place. The handle C^4 is brought back to its vertical position, as shown in Fig. 2, so lifting the coupling-link free of its opposite buffer J, which action concurrently causes the end of the draw-bar D^2 to enter the opening E^2 of its shuttle E and in position ready to be connected by the small pin E^6. The arch-piece G is now raised by its handle H^3, thereby drawing up the bolt G^2 and depressing the small pin E^6, assisted by the spring *e*, by means of which latter pin E^6 the shuttle E and its attendant chain J^4 are connected to the draw-bar D^2 and carried clear of the truck J^3. The carriages J^2 and J^3 are now totally disconnected in manner as is shown in Fig. 2.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Car-coupling appliances comprising two shoes for the reception of the safety-chain shuttles, and coupling devices for coupling said parts, on one car, longitudinally to-and-fro movable bars, and means for moving the same on another car, in combination with safety-chain shuttles adapted to be carried by said bars in position for coupling to their shoes, and coupling devices for coupling the two cars together, for the purpose set forth.

2. Car-coupling appliances comprising two shoes for the reception of the safety-chain shuttles and coupling devices for coupling said parts, on one car, longitudinally to-and-fro movable bars and mechanism for moving the same, on another car, in combination with safety-chain shuttles adapted to be carried by said bars in position for coupling to their shoes, means for coupling said shuttles to their bars, means for uncoupling the same when said shuttles are being coupled to their shoes, and coupling devices for coupling the two cars together, substantially as set forth.

3. Car-coupling appliances comprising shoes for the reception of the safety-chain shuttles, coupling devices for coupling said parts, on one car, said coupling devices adapted to be operated from either side of such car, longitudinally to-and-fro movable bars, and means for moving the same, on another car, in combination with safety-chain shuttles adapted to be carried by the aforesaid bars in position for coupling to their shoes, coupling devices for coupling the shuttles to their bars, said coupling devices adapted to be operated by the coupling devices which couple said shuttles to their shoes to uncouple the same from their bars, and coupling devices for coupling the two cars together, substantially as set forth.

4. Car-coupling appliances comprising shoes for the reception of the safety-chain shuttles, and coupling devices for coupling said parts, on one car, and longitudinally to-and-fro movable bars, and means for moving the same on another car, in combination with safety-chain shuttles adapted to be carried by said bars in position for coupling to their shoes, coupling devices for coupling the two cars together, and means controlled by the mechanism that operates the shuttle-carrier bars for moving an element of said coupling devices into and out of engagement with the other element, for the purpose set forth.

5. Car-coupling appliances, comprising shoes for the reception of the safety-chain shuttles, connected coupling-pins for coupling said shuttles to their shoes, and levers for operating said pins, on one car, said levers extending to opposite sides of such car, and said coupling-pins provided with a finger or lug, and longitudinally to-and-fro movable bars and mechanism for moving the same, on

another car, in combination with safety-chain shuttles adapted to be carried by the bars in position for coupling to their shoes, a two-armed spring-controlled coupling-lever, and a coupling-pin connected with one of the arms of said lever on said shuttles, for coupling the same to their bars, the other arm of said lever in the path of the finger or lug on coupling-pins for coupling the shuttles to their shoes when said shuttles have moved into said shoes when two cars are in position for coupling, for the purpose set forth.

6. Car-coupling appliances comprising two shoes for the reception of the safety-chain shuttles, connected coupling-pins for coupling said parts, and levers for actuating said pins, on one car, said levers extending to opposite sides of such car; and longitudinally to-and-fro movable bars and mechanism for moving the same, on another car, said mechanism adapted to be operated from either side of such car; in combination with safety-chain shuttles adapted to be carried by the aforesaid bars in position for coupling to their shoes, for the purpose set forth.

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

JOHN PURSER.

Witnesses:
ARTHUR A. MEERES,
ALFRED MINTER.