(No Model.)

S. J. O'NEIL.

CAR COUPLING.

No. 371,783. Patented Oct. 18, 1887.

Fig. 1.

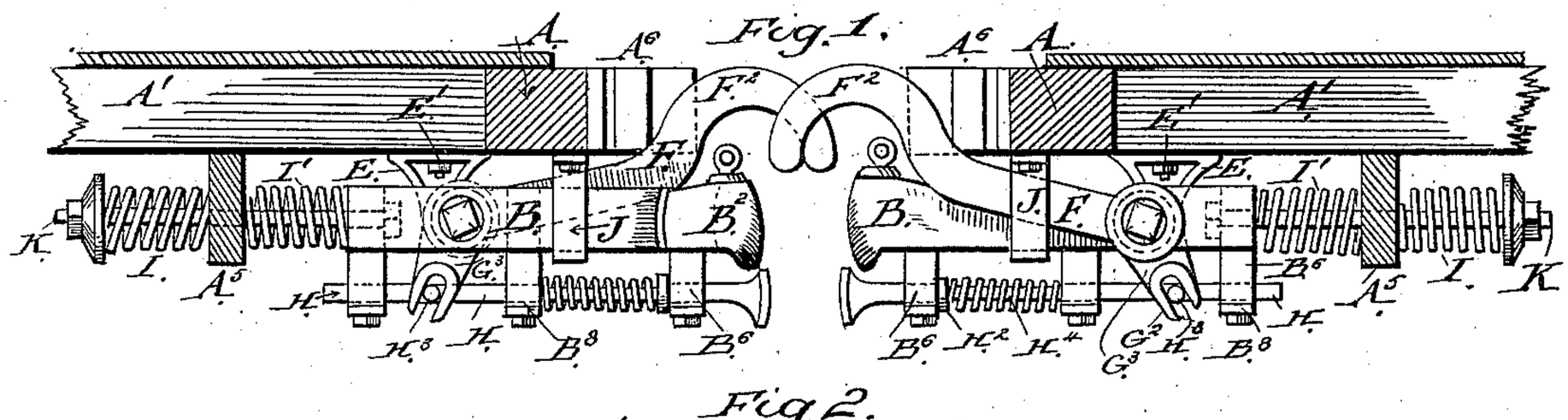


Fig. 2.

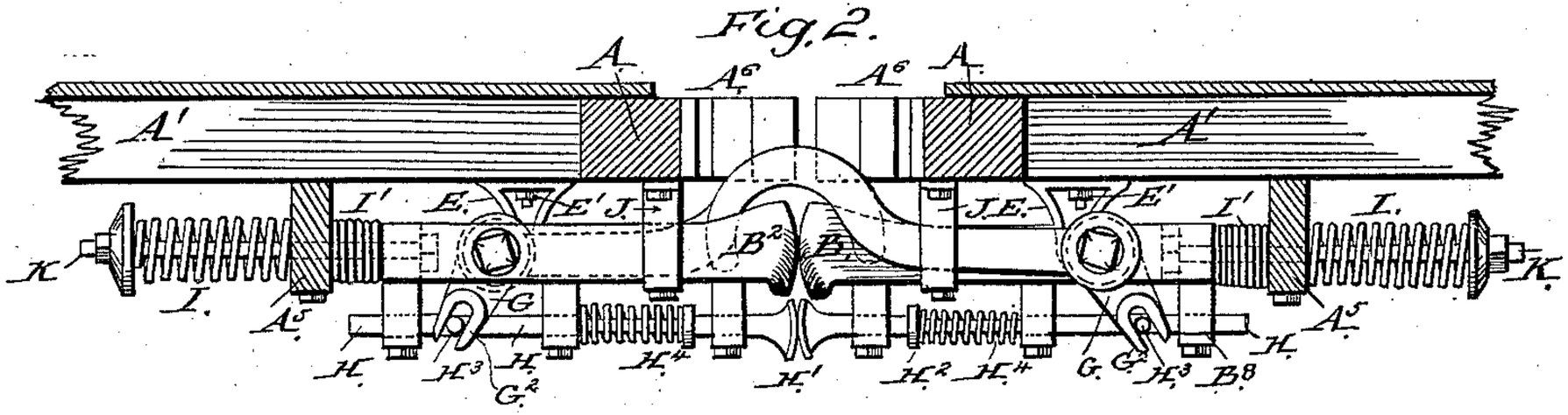
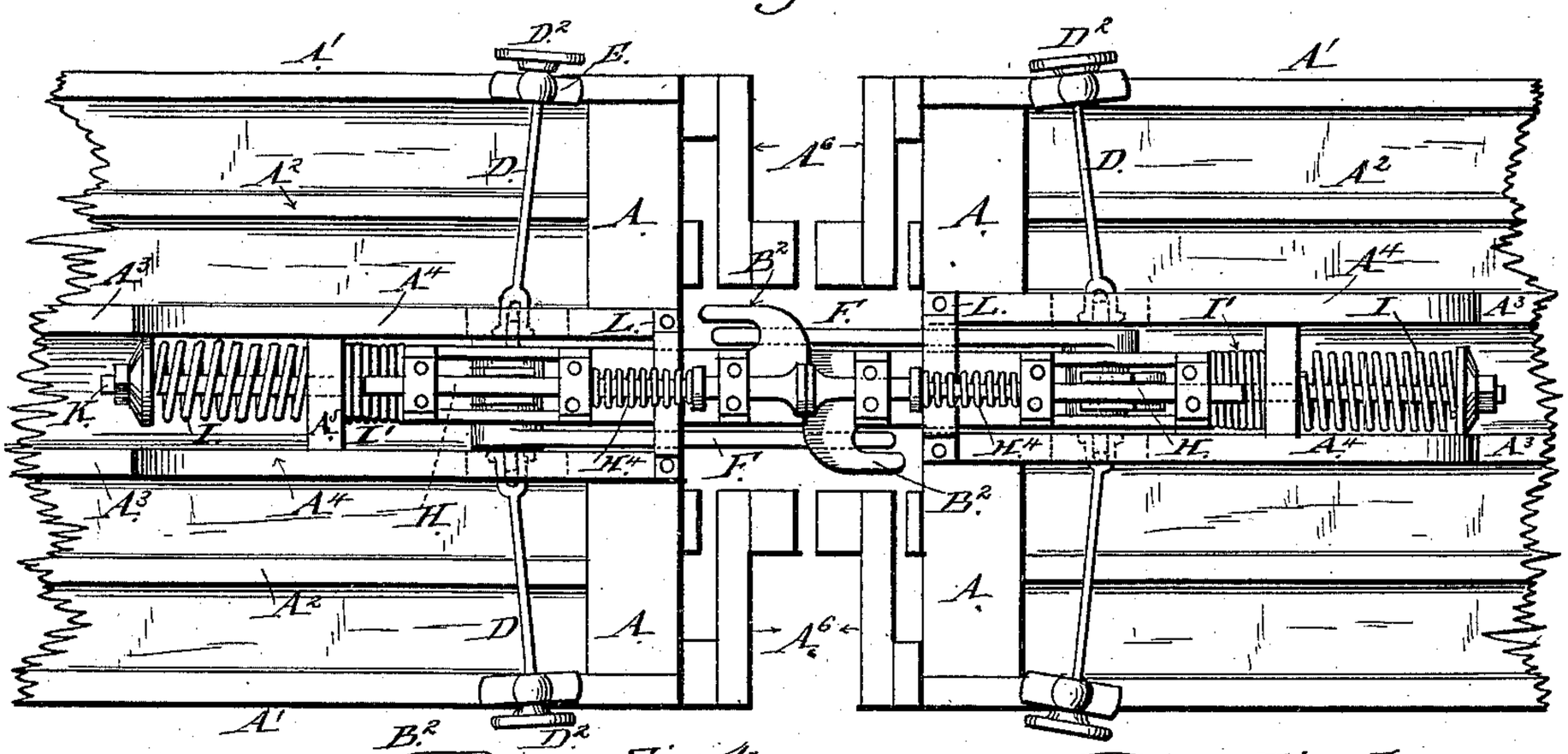


Fig. 3.



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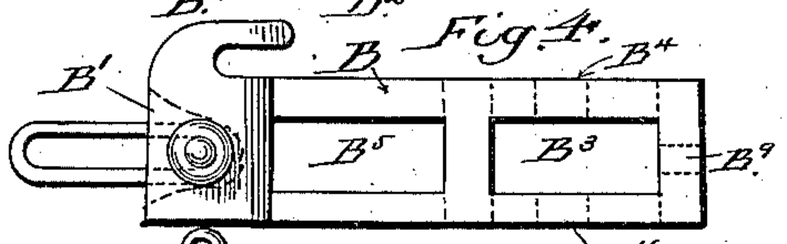


Fig. 5.

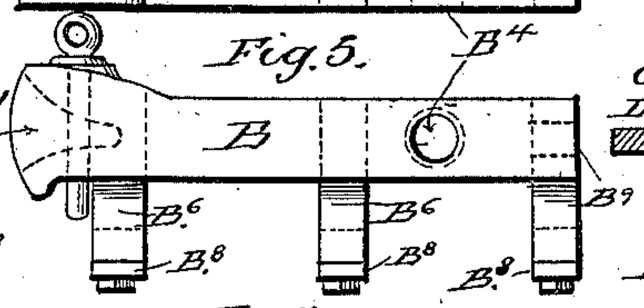


Fig. 6.

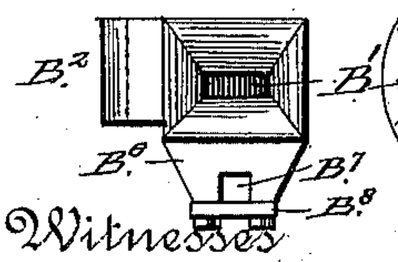


Fig. 7.

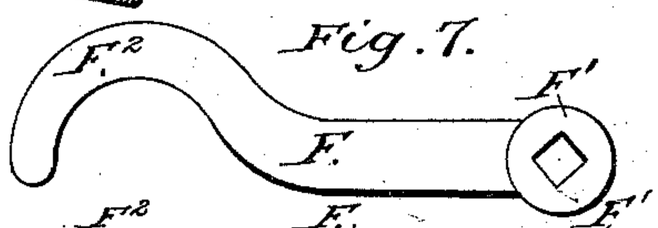


Fig. 8.

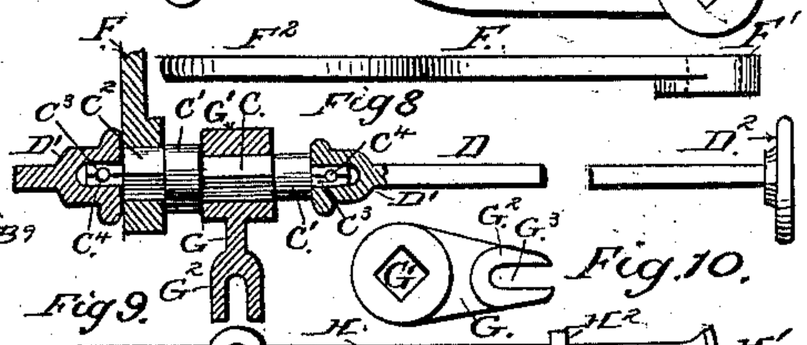


Fig. 9.

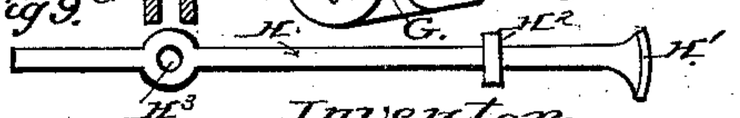


Fig. 10.

Fig. 11.

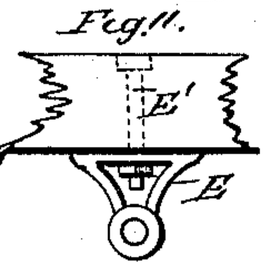
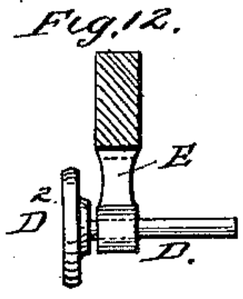


Fig. 12.



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Chas. E. Thomas

Inventor:
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per Attorney
Thomas P. Kinsey,

UNITED STATES PATENT OFFICE.

SIMON J. O'NEIL, OF READING, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 371,783, dated October 18, 1887.

Application filed March 8, 1887. Serial No. 230,078. (No model.)

To all whom it may concern:

Be it known that I, SIMON J. O'NEIL, a citizen of the United States, residing at the city of Reading, county of Berks, State of Pennsylvania, have invented a new and useful Improvement in Automatic Car-Couplers, of which the following is a specification.

This improvement relates more particularly to the class of automatic car-couplers adapted to be coupled to ordinary draw-head cars by the common link, and it is therefore not confined to cars expressly furnished with my improvement.

The object of the improvement is to furnish a draw-head for cars that at a slight cost can be made to supersede the draw-heads in use, that will automatically couple itself with a corresponding draw-head, or the coupling and uncoupling therewith may be controlled from the side of the car, at the will of the operator.

The above objects are attained in the use of my improvements, as shown in the drawings accompanying this specification and forming a part of the same, in which corresponding letters of reference indicate similar parts throughout.

Figure 1 represents in longitudinal side elevation the ends of two cars provided with my improvement, ready for coupling together, Fig. 2 representing, also in longitudinal side elevation, the same cars as coupled together. Fig. 3 is a reverse plan of the coupled cars, showing the hand operating mechanism, whereby the coupling of the cars may be controlled from the sides of the same. Fig. 4 represents in plan my improved draw-head as detached from the car, showing the recessed jaw for the ordinary link-connection and the side jaw for the connection of the automatic coupling-hook; Fig. 5, a side elevation of the same, showing as mounted below and forming an integral portion of the draw-head the guide-stands for the supplemental automatic bunter, operating the automatic coupling-hooks; Fig. 6, a front end elevation of the same. Fig. 7 represents in side elevation and plan one of the automatic coupling-hooks; Fig. 8, an elevation, partly in section, of the shaft placed in the rear of the draw-head, upon which is mounted the bifurcated arm operated by the supplemental bunter, and through which motion is transferred to the coupling-hook mounted upon said shaft upon the outside of the draw-head; also the hand operating devices in connection with said shaft. Fig. 9 represents, in side elevation, the supplemental bunter for automatically operating the draw-head, shaft, and coupling-hooks; Fig. 10, a plan of the bifurcated arm of the draw-head shaft detached therefrom; Fig. 11, a front elevation of the pivotal hanger for the support of the hand operating device; Fig. 12, a side view of the same with a portion of the hand device supported therein.

In the drawings, A represents the end sills; A′, the side sills; A^2, intermediate sills; A^3, draw-head guide-sills; A^4, superimposed sills; A^5, spring and draw-head abutment; A^6, ordinary bunters, to all of which I make no claim, my improvement pertaining more to the construction and operation of the draw-head for the same.

B represents my improved draw-head, having the usual end recess, B′, for the reception of an ordinary link, which enables cars unprovided with my improvement to be coupled therewith.

B^2 represents a side attachment to the jaw of the draw-head, and cast or formed integral therewith, which forms the tensional connection between the cars when the automatic coupling-hooks are dropped into the recess and over the connection with the same.

B^3 is an aperture cut through the draw-head, within which a bifurcated arm is suspended upon a special shaft, having bearings B^4 in the sides of the draw-head for the same; B^5, also an aperture made for the purpose of decreasing the weight of the draw-head.

B^6 represents stand-guides integral with the lower face of the draw-head, having a notch, B^7, as a guide for a supplemental bunter, and provided with caps B^8 for the retention of the same within the stands, B^9 being an end aperture for the spring-bolt.

C represents the squared central portion of the bifurcated-arm shaft, adapted to span the aperture B^3 of the draw-head, and provided with journals C′, fitted in the bearings B^4 of the same; C^2, a squared portion outside of the

draw-head for the reception of the hub of the automatic coupling-hook; C^3, a squared termination to the shaft at both ends for connection with the hand operating device, and C^4 pins for retaining the same in loose connection therewith.

D represents the shaft of the hand device; D′, a socket-head fitted loosely to the ends C^3 of the shaft, thus permitting a fore-and-aft movement of the draw-head; D^2, a hand wheel or crank outside of the car-timbers, by means of which the coupling-hooks are operated independently, E being a swiveling hanger for the support of the outer end of said shaft, and E′ the bolt upon which it swivels as the draw-head is pulled out or pushed in.

F represents the automatic coupling-hooks, provided with hubs F′, having a square aperture adapted to fit the squared portion C^2 of the draw-head shaft; F^2, a hook adapted in its normal condition (uncoupled) to stand free above the jaw of the draw-head, and in its coupled condition to drop automatically over the tensional hook connection B^2 of said draw-head.

G represents the bifurcated arm, suspended by its squared aperture hub G′ in aperture B^3 upon shaft C; G^2, bifurcated portion of arm adapted to straddle the supplemental bunter, and having bifurcations G^3 at right angles therewith, operating freely over the bunter-pin H^3, whereby the movement of said bunter is imparted to the arm G, shaft C, and coupling-hook F, as shown.

H represents the supplemental bunter, mounted in the guide-stands B^6 and held in the guides B^7 by the caps B^8, and is provided with bunter-heads H′, spring-collars H^2, pin H^3, formed integral with the body of the bunter, and a spring, H^4, of sufficient power to keep the coupling-hooks F raised to their full extent while the cars are standing uncoupled.

The draw-head is provided with the usual compound springs I I′, and may be supported beneath the car-body in various ways. I have shown it in Figs. 1 and 2 as supported in a wrought-iron yoke, J, from the end sill, and by the spring-bolt K in the rear in a cross-timber, A^5, and in the reverse plan, Fig. 3, superimposed guide-sills A^4 are placed upon the usual guide-sills, A^3. In this case the same would be slotted, as shown in dotted lines, to permit the movement of the hand-device connection with the draw-head, and a flat bar of iron, L, would retain the front end of the draw-head in place, as before. As my improvement pertains to the coupler and draw-head alone, and I have no claim based upon the construction of the car, it will not be necessary to go into details as to the manufacture of the same.

The operation of the coupler is as follows: Two cars provided with my improvement, upon the same track, are pressed toward each other, when the supplemental bunter-heads H′ will first come in contact, and overcoming the force of the springs H^4, through the collars H^2, the bunter-rod pin H^3 in the bifurcations G^3 drives the arm G toward the rear, which, operating upon the shaft C, causes the same to be partially rotated upon its journals C′, and thus, through its connection with the coupling-hooks F^2, to depress the same; at the same time the springs I′ are compressed by the jaws of the draw-heads B striking each other, and, being compressed sufficiently to bring the recess formed by the tension-piece B^2 in line with the hooks F^2, the same drop into place and the cars are coupled. To uncouple the cars the operator walks alongside of the train, and as he successively passes the hand-wheels D^2 a slight turn upon the same releases the hooks F^2 and the cars are uncoupled. By a sudden pull and slack given to the train the couplings will automatically release themselves.

Having shown the construction, use, and advantages of my improvement, I desire to claim as follows:

1. As an improvement in automatic couplers for cars, a draw-head provided with the usual recess in its front for an ordinary link, and having its head extended upon one side to form a recess, and tension-piece adapted to receive a coupling-hook mounted upon the opposing draw-head, apertures for reducing the weight of draw-head and for the reception of a shaft and arm, operated by a supplemental bunter, said shaft supported in bearings in the sides of said draw-head and provided with a central bifurcated arm, an outside supported automatic coupling-hook, and end connections with a hand device, having swiveled connections with the side sills, and hand-wheels for operating the same, hung outside of said swivel hangers, integral stands with guide-bearings, and caps for supplemental bunter-bar H, heads H′, collar H^2, pins H^3, and springs H^4, in combination with springs I I′, bolts K, cross-bar A^5, and guide-sills and yoke or plate, as shown, described, and for the purpose set forth.

2. As an improvement in car-couplers, a draw-head having mounted upon its lower face and integral therewith stand-guides B^6, provided with guides B^7, and caps B^8, in which are automatically operated bunter-rods H, having heads H′, collars H^2, integral pins H^3, and springs H^4, in combination with a bifurcated arm, G, straddling said bar and in operative connection with said pin H^3, said arm mounted upon a shaft supported in the sides of said draw-head, and having a coupling-hook, F, hung upon the same, outside of said draw-head, the ends of said shaft squared and loosely fitted to socket ends D′ of a hand device in combination therewith, whereby the cars may be coupled and uncoupled from the sides of the same by operating hand-wheels D^2, as and for the purpose set forth.

3. In combination with a car-coupler draw-

head, as shown and described, a coupling-hook, F, having a hub, F′, and hook F^2, a square perforation in said hub, adapted to fit a squared portion, C^2, of a shaft, C, suspended by bearings B^4 and journals C′ in the sides of said draw-head, and having an arm, G, central to a recess, B^3, therein, said arm projected below said draw-head and in operative connection with the supplemental bunter-bar H by its integral pins H^3, a spring, H^4, upon said bar, pressing against a collar, H^2, the whole so arranged and combined with said draw-head that the heads H′ of the supplemental bunter shall first contact, and that on subsequent contact of the draw-head jaws the coupling-hooks F^2 shall be depressed and lock in the recesses of the head-extension B^2, and thus couple the cars, the hand device D, with its socket D′, and hand-wheels D^2, supported in the swiveled hangers E, provided for the hand operation of the device, as and for the purpose set forth.

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