(No Model.) 2 Sheets—Sheet 1.

A. ORMSBY.

CAR COUPLING.

No. 371,966. Patented Oct. 25, 1887.

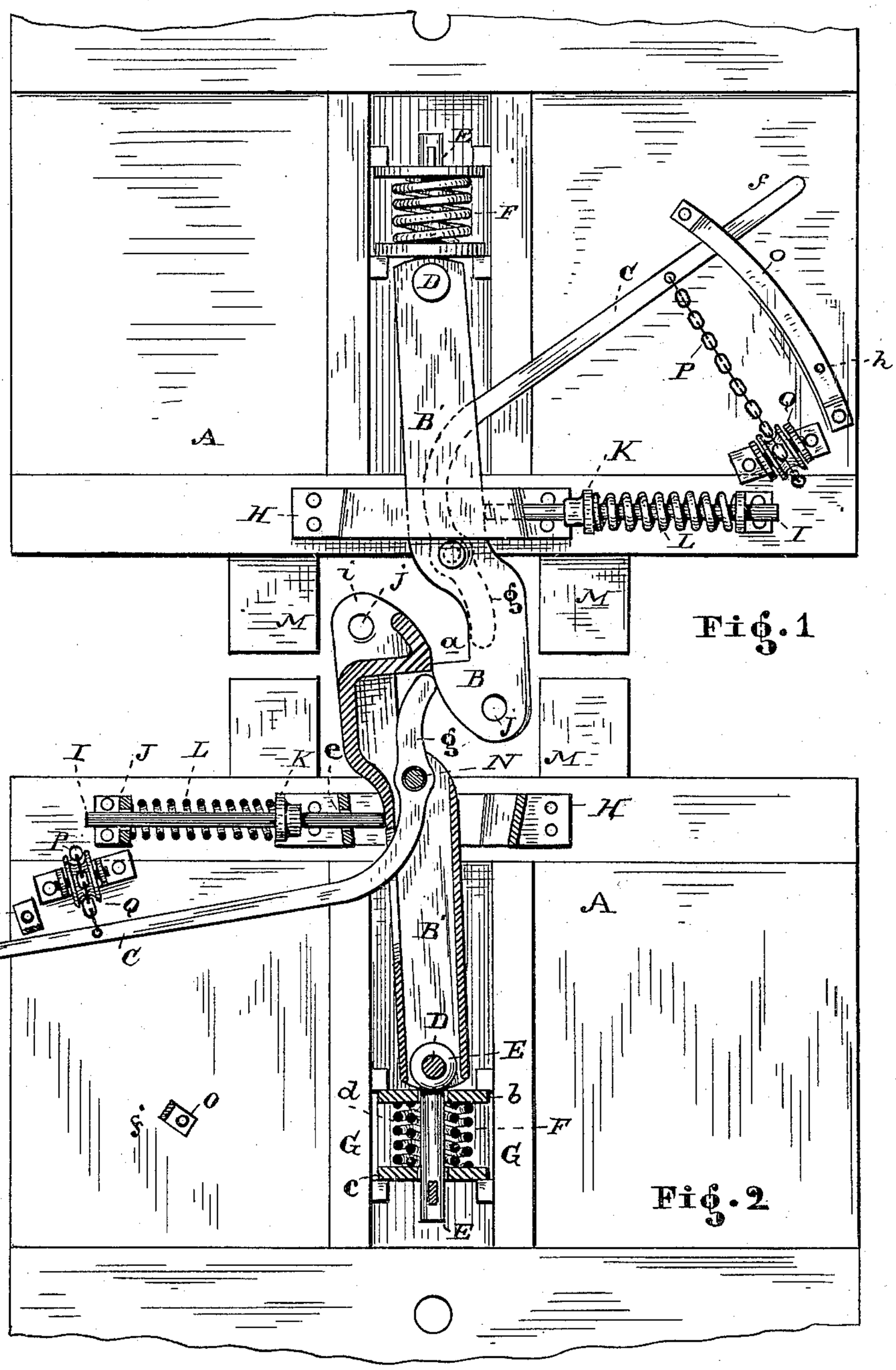

Fig. 1

Fig. 2

WITNESSES

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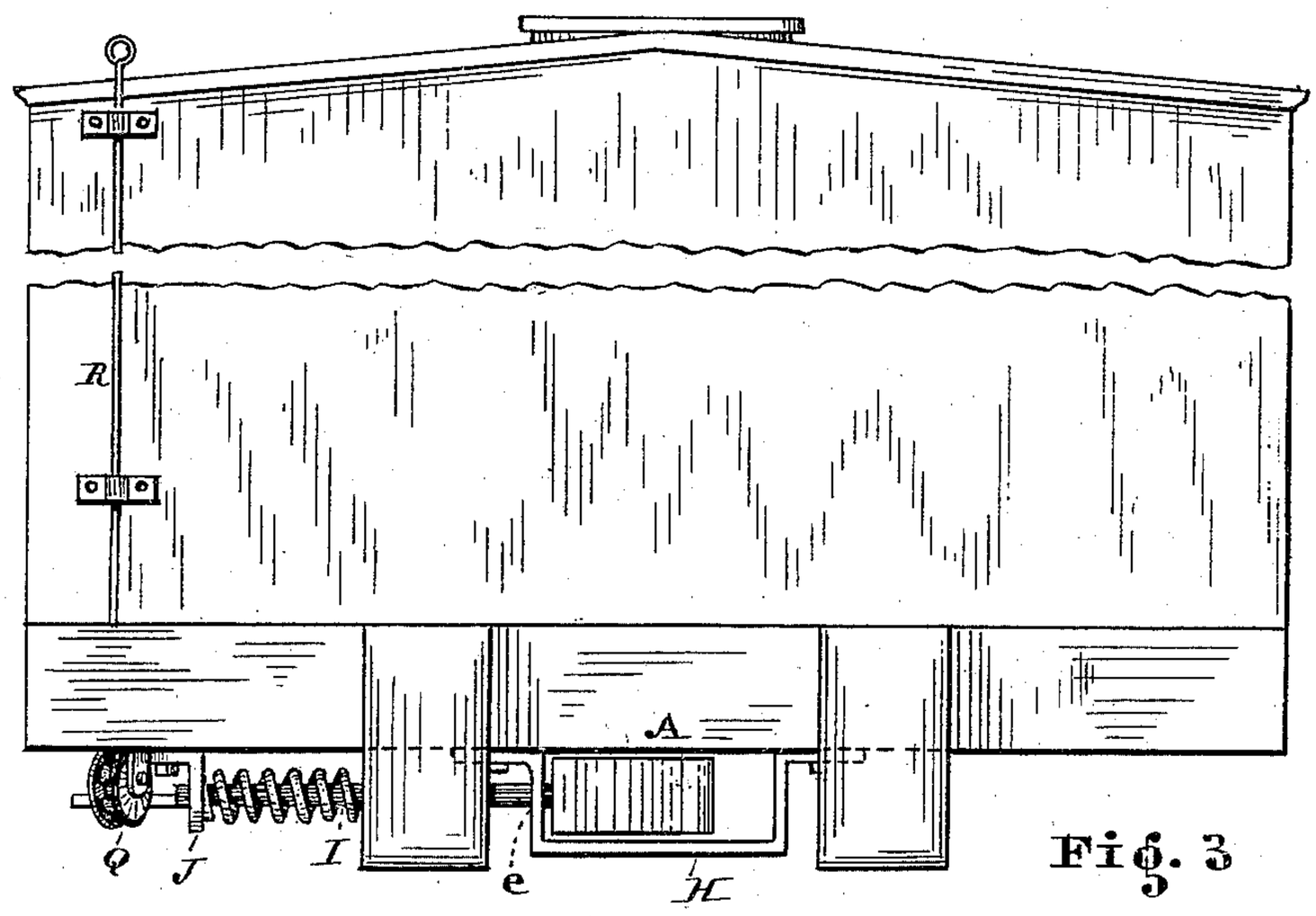

Fig. 3

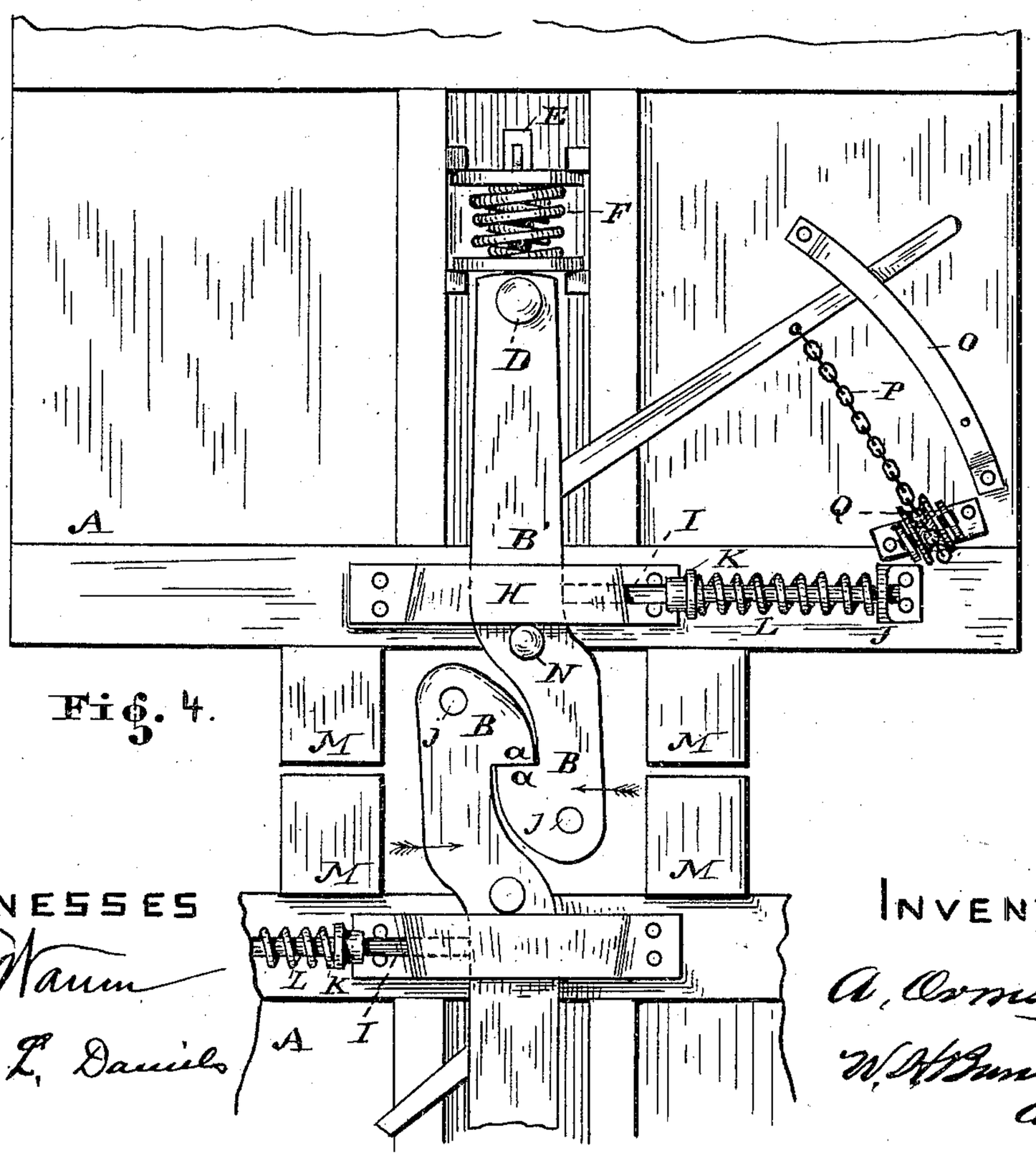

Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

ALEXANDER ORMSBY, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO WILLIAM J. McKINNIE, OF CLEVELAND, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 371,966, dated October 25, 1887.

Application filed April 18, 1887. Serial No. 235,285. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER ORMSBY, of Buffalo, in the county of Erie and State of New York, have invented a certain new and Improved Railway-Car Coupling; and I do hereby declare that the following is a full, clear, and complete description thereof.

The nature of my invention relates to the mechanism employed for coupling and uncoupling the cars automatically, whereby the danger of going between the cars is avoided and the labor facilitated.

It consists of a special form of draw-head and uncoupling lever pivoted therein, and in details relating to the springs and their supports for holding the head in engagement.

That the invention may be more fully seen and understood, reference will be had to the following specification and annexed drawings.

Figure 1 is a view of the coupling complete as seen from the under side of the railway-car. Fig. 2 is a horizontal section of the same in line *x x*, Fig. 3. Fig. 3 represents an end elevation of a car provided with said improved coupling. Fig. 4 is an under side view of two cars when coupled.

Like letters designate like parts in the drawings and specification.

In the drawings, A represents the end part of the under side of a railway-car with which is connected the coupling-head B, centrally located at each end and secured in place by means hereinafter set forth.

C, Figs. 1 and 2, is a lever loosely bolted to the draw-bar, by means of which the cars can be uncoupled without going between them. The mechanism of the couplings is constructed to combine strength and durability with reference to light weight.

The draw-bar and head are preferably made of malleable iron or steel casting, having a cavity or hollow square form, open at both ends, as seen in Fig. 2. The head B of the draw-bar B′ is set off to one side and forms a jaw, *a*, projecting from the head B. The two jaws couple and connect together in making up a train, as presently shown. The near end of the bar B′ is connected with the pin D, arranged to form a pivotal connection with the eyebolt E, Figs. 2 and 4. To said eyebolt is attached the spring or cushioning device F, which is arranged between the car-timbers G, and consists of the washers *b c* and double spring *d*, as seen in Figs. 1 and 2. Near the front end of the head B, and fastened to the car, is a bracket or brace H, Figs. 1 and 3, in which the coupling-bar is supported, and allowed to swing laterally as required in coupling and uncoupling the cars. The bracket H is provided with an opening, *e*, Figs. 2 and 3, to receive the one end of the adjusting-rod I. The opposite end of said rod is supported and guided in the bearing J. Arranged on the rod between the collar K and bearing J is a spring, L, by the action of which the bars and coupling-heads B are forced in the direction of the arrows, Figs. 1 and 2, causing the jaws *a a* to engage and clasp together the coupling-heads B B as soon as the beveled front sides thereof pass beyond each other in the act of coupling the cars. (See Fig. 4.)

The purpose of the spring cushioning device F is to reduce and ease off the sudden violence of the shocks when the heads B of the draw-bars are forced against each other in coupling. The bumper-blocks M, Figs. 1 and 2, prevent the cars from running in too close a contact with each other in making up a train. By the action of the springs L the coupling-heads B are connected together automatically and held engaged, thereby linking the train securely. The coupling-heads are made hollow and are made with a slot in the rear wall, through which the rear end of the uncoupling-lever projects. The coupling-heads B are disconnected and the cars uncoupled by means of a lever C, which lever is arranged within the cavity of the bar B′ and pivoted thereto by means of the pin N, extending through the said bar. The end of the lever which bears on the opposite coupling-head is formed with a curve and lies, when in normal position, and inactive, wholly in the cavity of the head, in which it is pivoted, and it projects therefrom only when pressed forward in the act of uncoupling. The rear end projects laterally from the slot in the wall. The slot is in the rear of the bearing-point of the bolt I, so that the bolt has bearing upon the rear face of the wall, whatever be the position of the head. The long arm *f* of the levers extends through the opening in the side

of the draw-bar to the side of the car, as seen in Figs. 2 and 4. Each of the levers, near its ends, is supported by the brace O, and the short arm of each is arranged to be within the sides of the draw-bar B′ in the space directly back of the heads, respectively, (seen in Figs. 1 and 2,) in which position it remains while the cars are coupled together by the means set forth.

As shown, each draw-bar is provided with a lever C; but to uncouple the cars or disengage the heads B only one of the levers is necessary for that purpose, as indicated in Figs. 1 and 2, when it will be noted that the lever C of Fig. 1 may remain in its position shown, while the lever C of Fig. 2 is employed to separate the coupling-heads B B when it is turned from *f′* to the position shown at *f″*, Fig. 2. On the inside of the brace O is a lug or stop, *h*, over which the lever C is raised in disengaging the coupling, and against which the lever rests for the separation of their connection in uncoupling the cars.

That this coupling may be operated from the top as well as at the side of the car, a chain, P, Figs. 1 and 4, or its equivalent, is attached to the levers C C. Each chain runs over a pulley, Q, respectively, and is connected with a rod, as seen at R, Fig. 3, extending up to the car-top. On raising the rod R the lever C is so turned as to disengage the coupling and separate the cars, as before described, without the necessity of climbing up and down the cars to manipulate the coupling. The rod R and pulley Q are supported in suitable bearings secured to the car, as shown in Figs. 3 and 4. In the heads of each bar are formed holes and a recess or opening, *i*, Figs. 1, 2, and 4, in which recess the ordinary link can be placed, and the coupling made by passing the pin through the holes *j* and loop of the link. This mode of coupling is to provide means for connecting the cars in case of accident; or, in the event that the said improved coupling is already attached to a car, it can be connected with one having only the ordinary link and pin for attachment. By this means a car having the said improved coupling may be connected with one provided with the ordinary link and pin.

I am aware that lateral springs held on bolts have been heretofore shown in connection with the hook-head car-couplings, and I do not claim this. The invention on this point is in the details explained, the bolt being held at its inner end in a hole in the iron which retains the coupling.

I am aware that the general form of lever pivoted in the draw-head and acting on the opposite draw-head is old.

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

1. The coupling-head of a laterally-hooking car-coupling, formed with a cavity adapted to receive and wholly retain the working end of the uncoupling-lever and made with a slot in the rear wall, in combination with an uncoupling-lever, C, pivoted in the head and having its front or working end formed to lie wholly in said cavity, and its rear end made to project laterally through the slot in the wall of the head, the lever being arranged to operate on the opposite head and provided with a chain and working-lever, as set forth.

2. In combination with the hollow coupling-head and its contained lever, the bracket H, having a hole, *e*, the bearing J, the bolt I, provided with a collar, K, and arranged in the bracket and pressing through the holes and bearing on the rear wall of the coupling-head, and the spring and the rod, all as set forth.

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

ALEXANDER ORMSBY.

Witnesses:
M. F. WARREN,
JNO. L. DANIELS.