

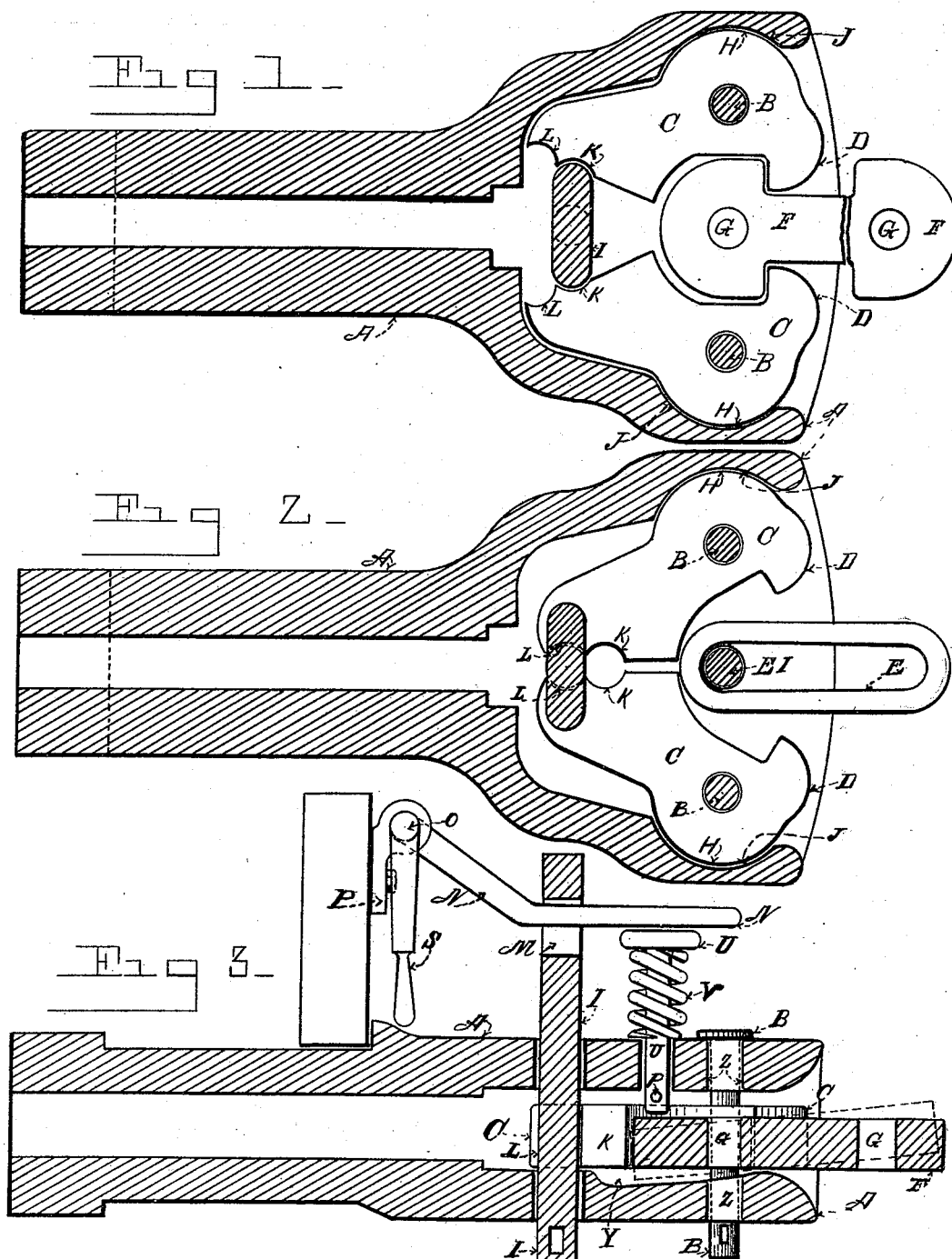
(No Model.)

2 Sheets—Sheet 1.

H. G. FIELD.  
CAR COUPLING.

No. 491,999.

Patented Feb. 21, 1893.



Witnesses  
Curtis H. Field  
Howard S. Bailey

Inventor  
Hardin Elliott Field

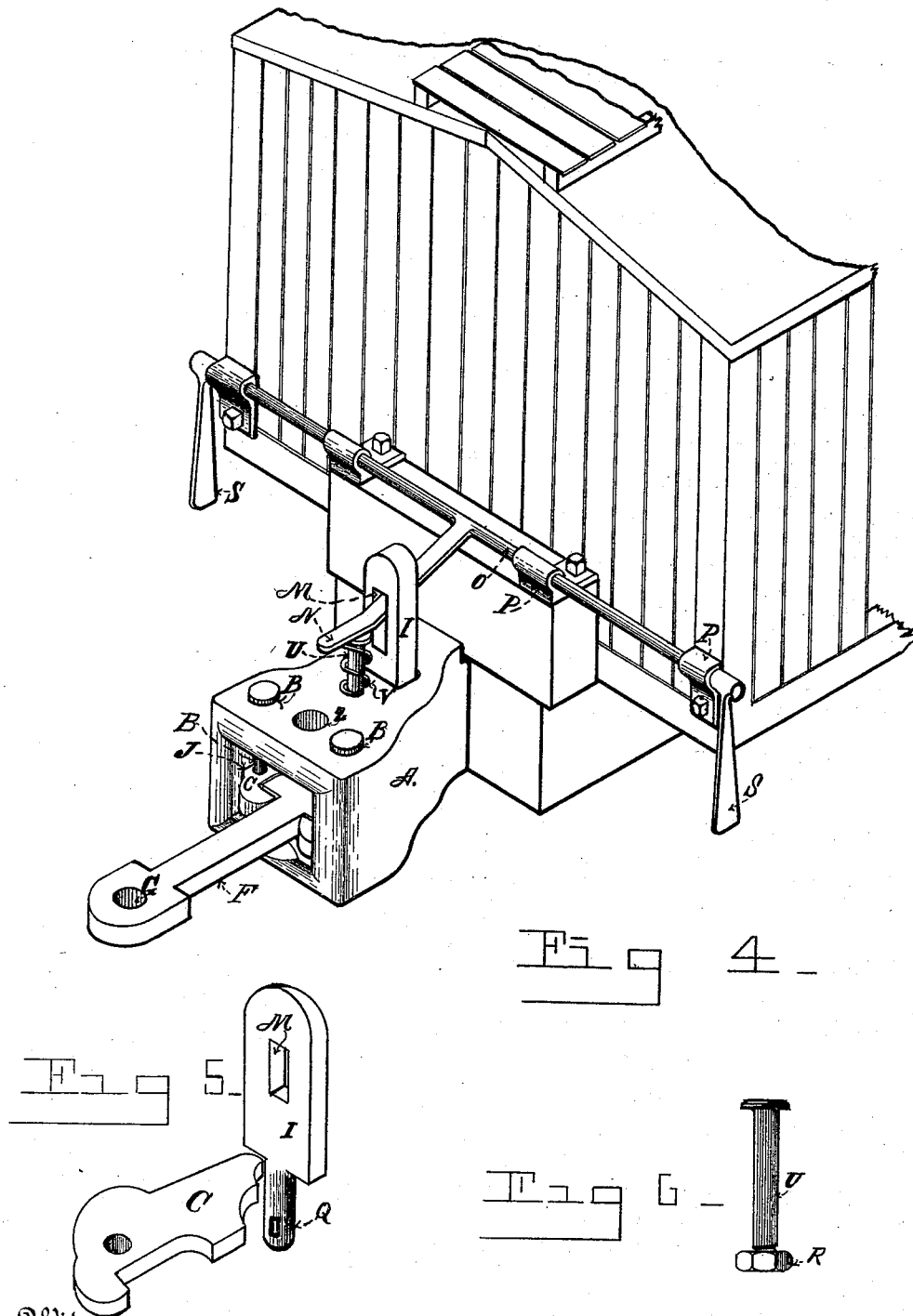
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# UNITED STATES PATENT OFFICE.

HARDIN GILLIATT FIELD, OF DENVER, COLORADO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 491,999, dated February 21, 1893.

Application filed May 14, 1892. Serial No. 432,983. (No model.)

*To all whom it may concern:*

Be it known that I, HARDIN GILLIATT FIELD, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Car-Coupler, of which the following is a specification.

My invention relates to improvements in car-couplers, and the objects of my invention are, first, to provide an automatic car coupler. Second, to provide a link setting mechanism, by means of which the link can be vertically adjusted from either side of the car. Third, to provide a coupler of great strength, durability and simplicity. I attain these objects by the mechanism illustrated and described in the accompanying drawings and specification, in which—

Figure 1, is a longitudinal section horizontally taken through the center of a common draw head, and shows arrangement of the coupler, with the link coupled. Fig. 2, is a similar view showing link uncoupled, and showing a common link and pin attached to the draw head. Fig. 3, is a longitudinal vertical section through the center of a common draw head. Fig. 4, is a perspective view of the coupler attached to a car. Fig. 5, is a perspective view of the coupling pin and one of the cams. Fig. 6, the link adjusting pin.

Similar letters refer to similar parts throughout the several views.

Referring to Fig. 1, A, is a common draw head. C, and C, are cams resting in the link recession of the head. They are pivoted freely on the pins B, which pass entirely through the draw head. The front edges of the cams are inwardly curved at D, to guide the link F, centrally into the opening in the head. Where the curves end an offset is made in each cam, and a space formed between them matching the enlarged end of the link F. The link F, is of special design and consists of a rectangular bar provided with enlarged semicircular ends which offset in shoulders at right angles to length of link. The ends are provided with pin holes G, for use of the common link-pin. It can be secured in this manner to the draw head by placing a pin in holes Z, of the draw head, Figs. 3, and 4. The link is to be used in this manner only in case of breakage of the automatic coupler.

A common link E, and pin E', in section is shown in Fig. 2, attached to the head. It can be used in case the special link breaks.

The sides of the draw head are provided with recessions J, matching a concentric portion H, of the cams C. The cams bear in these recessions being loose enough on the pins B, to admit of this. The back ends are provided with notches K, and L, arranged opposite each other and adapted to partially embrace the sides of the coupling pin I. The coupling pin I, stands vertically in the draw head and extends through it. A shoulder is made by reducing the lower part to smaller dimensions. If the link is coupled as in Fig. 1, the shoulders rest on the bottom of the recess in the head. If uncoupled as in Fig. 2, they rest on the cams.

Referring to Figs. 3, and 4, it will be noticed that the top of the coupling pin is provided with a slot M, through which extends the operating lever N. This lever is secured to or forms a part of the shaft O, which is secured to the front of the car by the bearings P, in which it freely rests. The shaft O, is extended beyond both edges of the car enough to allow the handles S, to swing unobstructed by them, as in Fig. 4.

The operating lever N, rests on the head of the adjusting pin U. This pin extends through the top of the draw head. It is held in place by the expansive force of the spring V, which surrounds it between the top of the draw head and its own head. This holds the key P or nut R at its lower end up against the draw head. Fig. 6, shows a nut on the end of this pin, which is preferred to the key, as it permits adjustment.

The adjusting pin U, stands centrally over the end of the link F. A space Y is made in the draw head under the end of the link which permits this end to be pressed down and the other end raised as shown in dotted lines in Fig. 3.

The operation of my automatic car coupler is as follows. As a car approaches to be coupled, the trainman by means of one of the handles of the shaft O, presses the lever N, and the adjusting pin U, downward. This brings the lower end of the adjusting pin in contact with the end of the link F, which lowers it and raises the outer end and permits it to be

guided centrally into the approaching draw head.

The link F, is uncoupled as follows: The handles and shaft are moved to raise the operating lever N, which coming in contact with the top of the slot N, in the coupling pin I, lifts it, permitting the link to be withdrawn. This movement throws the jaws of the cams open and closes the notches L, around the smaller part Q, of the coupling pin, which is now resting on the cams as shown in Fig. 2. The pull of the link on the cams, throws the concentric portion H, against the recessions J, in the draw head, and forces the notches K, to clamp the coupling pin.

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

1. In a car-coupler the combination of a draw head having centrally located a rectangular slot arranged at right angles to the longitudinal axes of the draw head, and passing through the top into the link recession and extending, of reduced size through the bottom, a rectangular coupling pin vertically adjusted in said slot and having its lower end at the bottom of the link recess laterally reduced and its top end provided with a vertical clearance slot, the lever N, extending through said slot and resting on the adjusting pin U, and secured to, or forming part of a shaft extending across the end of the car and movably secured in bearings attached to the same the cams C, concentrically pivoted in the link recess to pins passing through the draw head having their outer ends curved toward the central path of the link and ending in a semicircular recess adapted to receive and embrace the enlarged semicircular end of the special link F, the concentric portions of the cams and the recessions in the side of the draw head matching the same, and the notches in the cams arranged to partially embrace the different proportions of the coupling pin, a rectangular link F, having enlarged semicircular ends forming shoulders at right angles to length of link and pin holes in the ends of the same and the link adjusting pin U, arranged vertically through the top of the draw head and centrally over the end of the link, provided with a spring between its head and the top of the draw head and having an adjusting nut attached to its

lower end all arranged as herein set forth and described.

2. In a car coupler the combination with a draw head, of the cams C pivotally attached in the link recess having extending jaws curving inward and ending in a central recess partly in both, and adapted to receive the enlarged semicircular end of the link F, the cams having concentric portions extending into recess formed in the sides of the draw head operating as bearings. and having notches K and L, in each at their inner ends. with a rectangular coupling pin vertically movable in the draw head by means of an operating lever passing through a slot in the top of the coupling pin and being attached to a movable shaft extending to both sides of the car. having the coupling pin arranged to spread the inner ends of the cams by dropping between them thereby closing the outer jaws around the enlarged end of the link. and having the lower portion of the coupling pin laterally reduced to allow the ends of the cams to pass under the body of the coupling pin when the pin is raised and the link withdrawn. substantially as herein set forth.

3. The combination with a draw head, of a pin centrally located in the draw head and vertically movable in a suitable slot through the top thereof, having an expansive spring surrounding said pin and bearing between its head and the top of the draw head, and having the lower end of the pin provided with an adjustable nut, the spring operating to force the pin upward, and its nut against the top of the link recess. having the pin arranged to bear on top of the end of the coupling link, and a space made in the draw head under the end of the link, to allow the link to be pressed down by means of an operating lever bearing on top of the pin, and forming a part of or secured to a movable shaft provided with handles arranged at right angles to it and at each end, and having said shaft secured to the car and arranged to be operated from either side. all arranged substantially as, and for the purpose herein set forth and described.

HARDIN GILLIATT FIELD.

Witnesses:

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