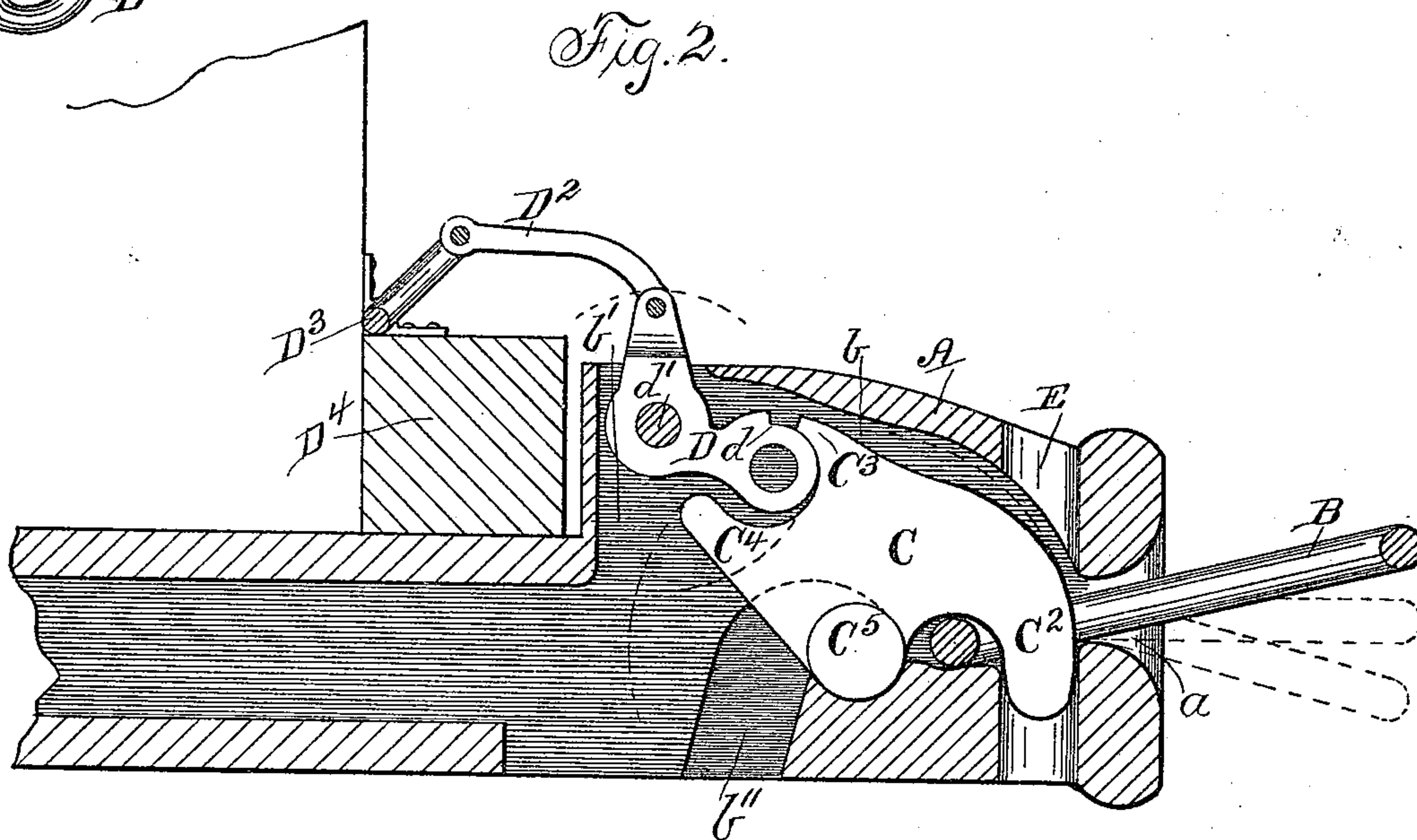
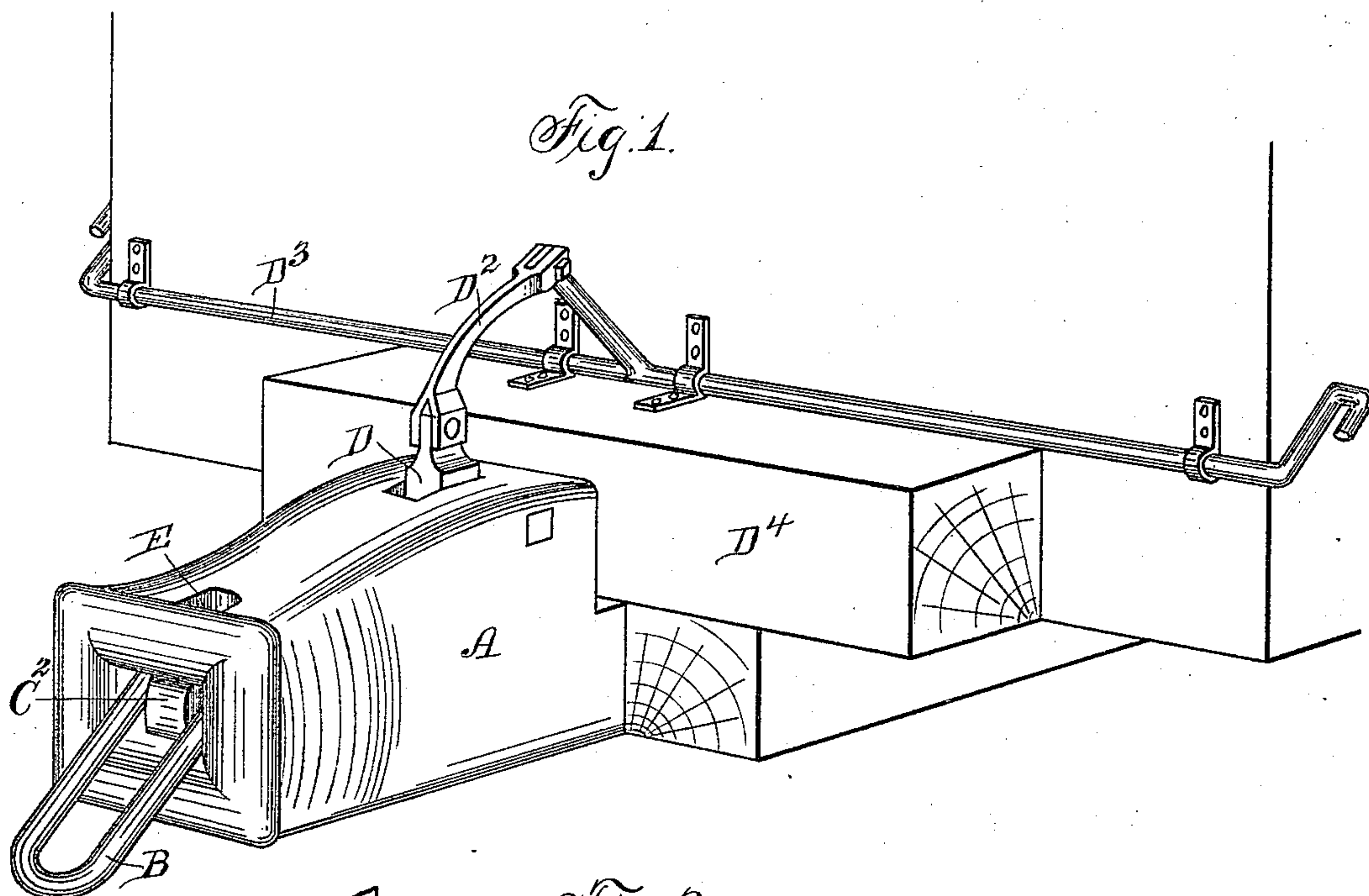


(No Model.)

G. W. DICKEY.
CAR COUPLING.

No. 440,250.

Patented Nov. 11, 1890.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE W. DICKEY, OF DES MOINES, ASSIGNOR OF ONE-HALF TO SYLVANUS S. WILSON, OF COLFAX, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 440,250, dated November 11, 1890.

Application filed August 14, 1890. Serial No. 362,022. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. DICKEY, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Car-Coupling, of which the following is a specification.

My object is to provide a car-coupling which shall be cheap and compact in construction, which shall readily permit the entrance of the link into the draw-head of an adjacent car, and which shall hold its link firmly within the draw-head.

My object further consists in the provision of means by which the link within the one draw-head may be adjusted by the train or yard man from a point out of danger at such angles relative to the height of the draw-head of the adjacently-approaching car as that the link will enter into said draw-head and effect a coupling.

My object further consists in means by which an uncoupling may be effected by the train or yard man from a point out of danger, and to accomplish all of the foregoing desired results without the use of levers, which are so located and constructed as to be liable to become bent, and to dispense entirely with the use of springs and chains, which in various emergencies render a coupling inefficient.

My invention consists, structurally, in a pivoted locking and adjusting block having a pin preferably formed integral with said block, the pin being adapted to engage the link or coupling-bar, or to be withdrawn from such engagement by the train or yard man, and a supplemental pivoted piece approximately of bell-crank form, adapted to engage with or be disengaged from said locking-block, said supplemental piece also serving as a stop to limit the vertical movement of the locking-block when the pin of the latter is desired to be preserved in engagement with the link.

My invention consists, further, in certain details of construction and arrangement of parts, hereinafter more fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of the end of a car having attached thereto

my improved coupler. Fig. 2 is a longitudinal sectional view, the dotted lines indicating the different positions which the link may be caused to assume.

A represents a draw-head provided with a chamber *a* for the reception of the link B, of the well-known form and construction. Through the central portion of the draw-head A a recess or chamber *b* is provided, which, together with the chamber *b'* in the rear thereof, forms the sides of the draw-head into check plates. Extending obliquely upward from an opening in the under side of the draw-head are transverse channels or recesses *b''*, which are formed into half-circles at their upper ends, said channels being formed on each side of interior of draw-head.

The locking and adjusting piece C, which, it will be seen, is of peculiar shape, has a downwardly-projecting pin *C*², adapted to engage the link B, a projecting portion *C*³, and a rearward and upwardly-extending tang *C*⁴, and journal projections or trunnions *C*⁵ *C*⁵ on each of its sides.

The cam-lever D is of an approximate bell-crank form, to the upper end of which is pivotally connected a link *D*². The other end of said lever is pivotally connected to the actuating-levers *D*³ *D*³, mounted on the blocks *D*⁴ and extending to the side of the car.

The lower arm of the lever D is so constructed as to provide cam-faces adapted to impinge against and engage the tang *C*⁴ of the locking and adjusting block, and to engage the projection *C*³ at the desired time. Said lower arm is also notched, as shown at *d'*.

The cam-lever D is pivoted by means of a pin *d'*, journaled in the sides of the draw-head, while the locking and adjusting block C is pivoted on its journal projections or trunnions *C*⁵ within the interior sides of the draw-head, the trunnions resting within the semicircular portion of the channels *b''*.

I provide a vertical pin-hole at E, within which the ordinary pin may be inserted and a coupling effected in the ordinary manner.

The train or yard man in order to effect a coupling places a link within the chamber *a*, the pin *C*² of the adjusting and locking block being withdrawn by the train or yard man

by moving lever D^3 from either side of the car forwardly, which causes the connecting-link D^2 to move the upper end of the cam-lever D in a forward arc, said lever turning on its pivot d' , its rearward cam-face on the lower arm impinging and engaging against the tang C^4 , causing the latter to describe an arc rearwardly, turning the locking and adjusting block C on its pivot, and withdrawing its pin C^2 from the chamber a . The link now being within the chamber, the train or yard man by lever D^3 causes the upper end of cam-lever D to describe an arc in the opposite direction, the forward cam-face of its lower arm, impinging and engaging against the projection C^3 of block C , brings the pin C^2 into engagement within the link B . Suppose the car with which it is desired to effect a coupling has a draw-head higher than that holding the link. Then the operator pushes still farther rearwardly upon the lever D^4 , causing the neck portion of block C over the end of link to bear down upon the latter, depressing the same toward the bottom of chamber a and elevating the outer end of the link to the desired angle, the link resting upon the raised lower portion of the outer interior of the draw-head, as shown in Fig. 2. It will be seen that when it is desired to effect a coupling with a car having a lower draw-head, by relieving pressure upon the end of the link the outer end of the latter will drop by gravity the desired distance.

The notch d is arranged in such relation to the projection C^5 as that when a coupling is effected upon any undue upward movement of the block C said projection engages against the notch, preventing the withdrawal of pin C^2 from engagement with the link.

The space between the projection C^3 and tang C^4 is of such a width as that the notched portion d of lever D will clear the projection C^3 in the adjustment of the link or withdrawal of the pin C^2 .

It is now apparent that a coupling is provided which is simple in construction, and which will operate in such a manner as not to get out of order, as well as being flexibly adapted to ride over the crests of hills and about curves without uncoupling.

It is further apparent that the adjusting and locking block may be inserted within the draw-head readily from the exterior, finding its own bearings, and that the cam-lever may also be adjusted in like manner and its pivot-pin readily adjusted. My coupling does not require the slack of the train in order to effect an uncoupling. It is also apparent that the arrangement of the levers is such that they do not become bent or otherwise impaired upon the play of the draw-head in taking up slack, &c.; also, my coupling is adapted to be readily uncoupled on hills or curves.

In order to insert the readily-removable

parts—viz., the locking-block and cam-lever—the latter is first inserted into chamber b' from the opening in under side of draw-head and secured in place. The locking-block is then inserted, the trunnions traveling within the diagonal channels until they reach the semicircular portion thereof.

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

1. The combination, in a car-coupling, of a pivoted locking-block having fixed thereto an engaging-pin, said block having lugs extending from its rear portion, a pivoted cam-lever of bell-crank form, the upper arm of which is coupled to the rod or rods actuated by the operator and its other arm having its end cam-faced and engaging between the lugs of the locking-block to adjust the link, as and for the purposes set forth.

2. In a car-coupling, the combination of a draw-head having a central vertical channel, a chamber for the reception of the link, diagonal channels or recesses on each side of the interior of the draw-head, an adjusting and locking block pivoted loosely with said diagonal bore, and a cam-lever adapted to engage against the block to adjust the link or effect an uncoupling, said cam-lever being also pivoted within the diagonal bore, as and for the purposes stated.

3. In a car-coupling, the combination of a pivoted locking-block removably pivoted within the interior of the draw-head, having a coupling-pin integral therewith, and extending lugs formed on said block in the rear of its pivot, and a bell-crank-shaped removably-pivoted lever, one arm of which is coupled to the rod or rods actuated by the operator and the other arm cam-faced and engaging between the lugs of the locking-block, and a notch formed on said arm adapted to engage one of said lugs to prevent the uncoupling of the parts, as and for the purposes set forth.

4. A car-coupling having a chamber formed within the front portion of the draw-head, a vertical recess in the rear thereof and connecting said chamber with a chamber at the rear portion of the draw-head, diagonal channels formed on the interior of the sides of the draw-head having semicircular end portions, a locking block and pin, the trunnions of which rest within said semicircular end portions, and a cam-lever operated by a system of levers from the side of the car, which lever has faces adapted to engage projections on the locking-block, and a notch adapted to engage when desired to prevent uncoupling one of the projections of the cam-lever, as and for the purposes set forth.

GEORGE W. DICKEY.

Witnesses:

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