(No Model.)

J. C. HUGULEY.

CAR COUPLING.

No. 489,607. Patented Jan. 10, 1893.

Fig. 1.

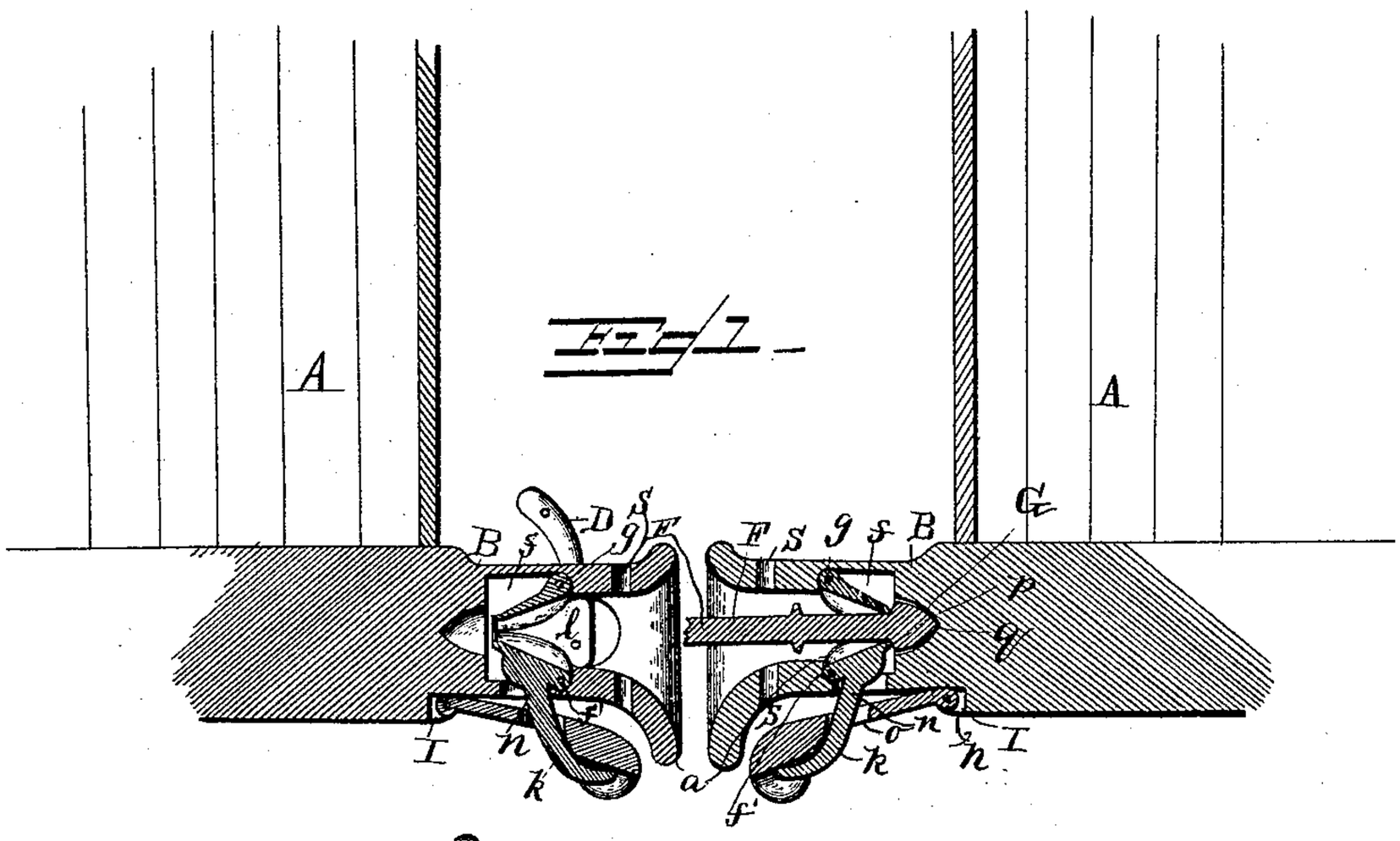


Fig. 2.

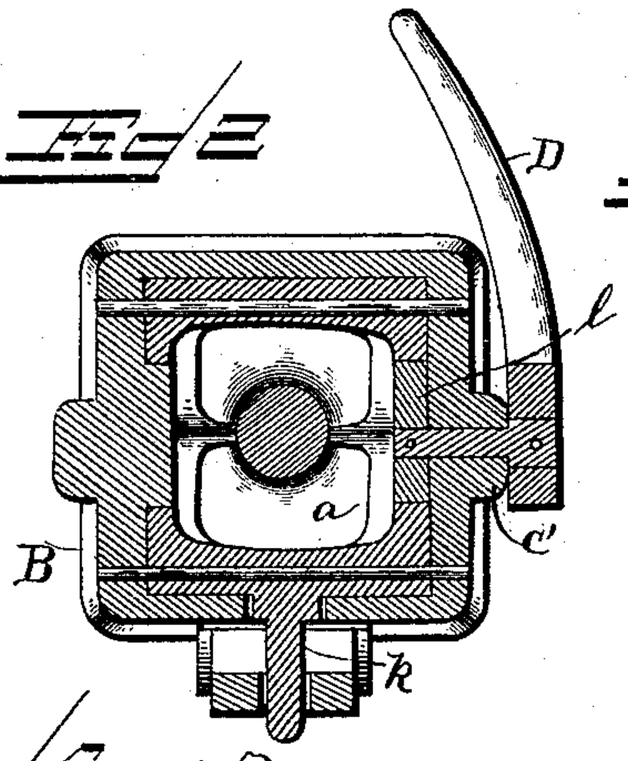


Fig. 3.

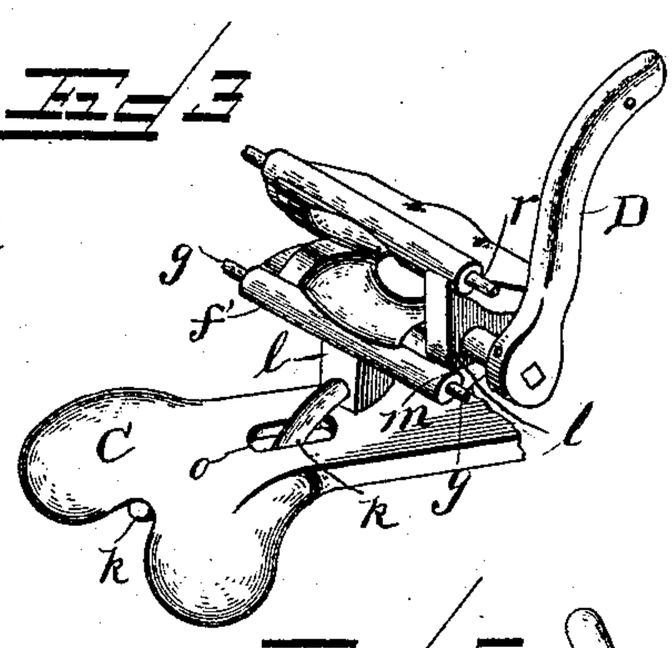


Fig. 4.

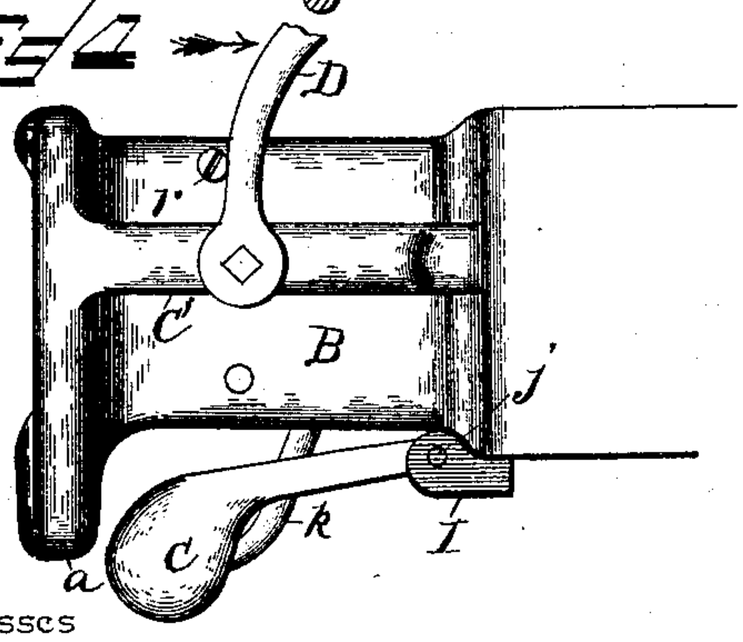
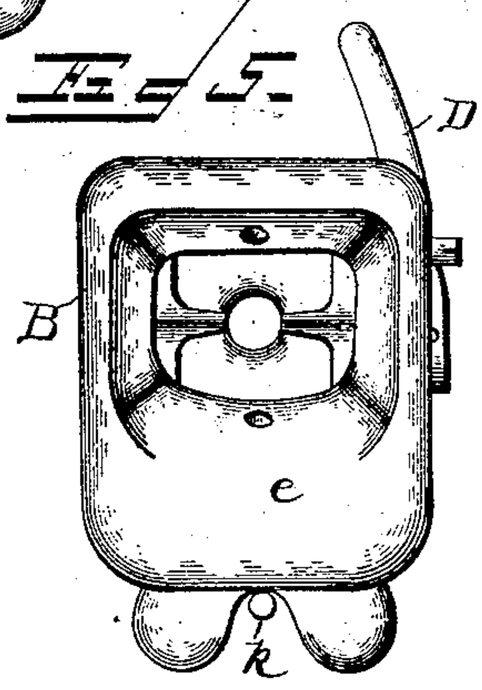


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOB. C. HUGULEY, OF DALLAS, TEXAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 489,607, dated January 10, 1893.

Application filed June 30, 1892. Serial No. 438,599. (No model.)

To all whom it may concern:

Be it known that I, JOB. C. HUGULEY, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented a new and useful Car-Coupling, of which the following is a specification.

My invention relates to an automatic car coupler for railway cars, and it has for its object to provide a device of this type which will be positive and certain in operation, simple in construction, interchangeable in parts, durable in use, cheap in manufacture, and not liable to become deranged or inoperative by rough usage or by the exterior influences of weather or other conditions.

My invention consists in certain details of construction arrangement and combination of parts, all of which will be more fully described hereinafter, and the specific points of novelty in which will be particularly pointed out in the appended claims.

Referring to the accompanying drawings forming a part of this specification:—Figure 1 is a longitudinal vertical section showing the adjacent ends of two cars equipped with my improvement. Fig. 2 is a transverse section on line *x x* of Fig. 1. Fig. 3 is a detail view of the uncoupling lever its cam, and detent. Fig. 4 is a side elevation of one of the draw heads. Fig. 5 is a front or end elevation of Fig. 4.

Like letters of reference mark similar or corresponding parts in the several views of the drawings.

A, A indicate two juxtaposed cars of any ordinary construction,—diagrammatically represented,—and severally provided at their adjacent ends with a draw head B of prescribed construction, as hereinafter explained, and bolted rigidly to the car body in the usual manner in alignment and in the same horizontal plane with each other so as to be in mutual operative relation. Each draw head is substantially rectangular in exterior outline (see Fig. 4), is cast in one piece of metal and comprises integrally the flaring open end or mouth *a*, and the lateral raised rib *c'* which acts as the supporting agency for the uncoupling lever D.

The interior of each draw head B is recessed in an irregular manner, the mouth *a* being curved outwardly and converging inwardly in the manner shown, constituting a guiding surface circumscribing the entrance of the coupling head pin. The said mouth *a* is provided with a vertically depending lip *e* having a convex curved engaging surface merging rearwardly into the interior recess of the draw head. Approximately at the rear of the interior of the draw head B is placed two mutually recessed jaws *f*, *f'*, horizontally pivoted in the sides of the draw head and is supported in such position by the swiveled pins *g*, *g* (see Figs. 2 and 4). The said jaws *f*, *f'* are, respectively, provided with mutually corresponding recesses which conform in shape and contour to the engaging coupling pin head designed to enter in between, and be held by the said jaws *f*, and *f'*, serving to admit the head of the coupling pin in its seat and to permit its disengagement when operated in a manner hereinafter described.

By reference to Figs. 1, 2, and 4, it will be seen that on the under side of the draw head B there is a weighted detent lever C pivoted between the bifurcations *h*, *h* of the bracket, I, formed on the underside of the draw-head, and exteriorly thereof, by the pivot pin *j;* and this gravity lever is mechanically connected to, and operated by, the jaw *f'* by the engaging finger *k* curved at its engaging extremity as shown clearly in Fig. 1 and adapted to uplift the weighted end of the detent lever C by the corresponding movement of the jaw *f'*, which in turn is operated by the uncoupling lever D pivoted on the rib *c'* and provided on the inside of the draw head with an engaging cam *l* having its face or bearing portion engaging and impinging against a shoulder *m* on the side of the jaw *f'*. Thus it will be understood by this construction that by shifting the lever D in the direction of the arrow, Fig. 4, the rear ends of the jaws *f f'* are depressed and the centrally depending finger *k* of jaw *f'* will engage and uplift the weighted end of the detent lever C, which normally holds the jaw *f'* in the position shown in Fig. 1, which position shows the coupling pin engaged and held in its seat between the said jaws against displacement. It will also be seen by reference to Fig. 1, that the under side of the draw head B is provided with a slot *n*, slightly elongated, permitting therethrough the entrance and operation of the finger *k* attached, as be-

fore stated, rigidly to the jaw f', and passing through a slot o in the detent lever C.

The coupling pin F consists simply of a solid rod of metal provided at both ends with an enlarged conical head forming the shoulder p between the rod-body and the head G, which tapers outwardly to the apex or point q. This head G is designed to enter into the interior recess of the draw head B, being guided by the curved sides of said recess into and through the jaws f' until the shoulder p passes slightly beyond the rear extremities of the jaws f, f' into a correspondingly shaped socket H formed in the rear wall of the draw head as clearly shown in Fig. 1.

Referring to Fig. 4, r indicates a limit pin placed with relation to the uncoupling lever D so that the same will permit a prescribed forward movement of the said lever and thus limit the drop or fall of the detent lever C, mechanically connected with, and operated by, the uncoupling lever D, as before described.

In order that my improved draw head may be utilized in connection with the old form of coupling pin and link, I have provided as shown in Figs. 1 and 2, the circular perforations s, s respectively in the upper and lower walls of the draw head, and situated in vertical alignment with each other to permit the insertion of an ordinary coupling pin to engage and hold the old form of link. I do not deem it necessary to show such coupling link and pin in order to demonstrate such utilization of the parts.

The operation of my invention briefly stated is as follows. One end of the coupling pin F being inserted in and held by the jaws f and f' of a draw head B on a stationary car A and the other free head or end G of said coupling pin resting in a disengaged free position, the approaching draw head B of a nearing car will, by means of the flaring mouth a engage and guide the said head G into the interior recess of the draw head through the jaws f, and f' until the shoulder p of the coupling pin will have passed the rear extremities of said jaws, thereby relieving the jaw f' of its depressing agency, and permitting the weighted detent lever C to drop by gravity and thus elevate and replace the jaw f' in its normal position preventing the longitudinal withdrawal of the coupling pin head G, since the shoulder p acts as an impediment thereto, it being understood that the return of the jaw f' to its normal position causes both of said jaws to embrace the coupling pin behind the shoulder p.

In order to uncouple the cars A, A from the position shown in Fig. 1, it is only necessary to actuate the lever D in the direction of the arrow, which will actuate the cam l to depress the lower pivoted jaw f' thus removing the impediment to the withdrawal of the head G of the coupling F from the draw head B, the curved recess in both jaws guiding the rearward movement of the coupling-pin-head, while it is being retracted by the separation of the cars A, A.

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

1. The combination with a coupling pin having an enlarged conical head, of a draw head interiorly recessed and provided with means for engaging and releasing said head, pivoted jaws mutually recessed to correspond to the shape of the coupling pin head and designed to receive and hold the same in a fixed position, a weighted detent lever controlling the action of one of said pivoted jaws, and a cam acting lever for actuating the said pivoted jaw against the influence of the aforesaid weighted lever, substantially as specified.

2. The combination with a draw head having an open flaring mouth converging into an interior recess, of an upper pivoted jaw suitably placed in said recess, a co-operating lower pivoted jaw also arranged in said recess in operative relation to the other jaw, provided with a depending curved finger extending through the bottom of the draw-head a weighted detent lever independent of the said pivoted jaw and having an opening to receive the curved finger and controlling the movement of the lower jaw, substantially as set forth.

3. The combination with a draw head provided interiorly with an upper pivoted jaw and a pivoted lower jaw arranged in operative relation to the said upper jaw and provided with a depending engaging finger, of a weighted detent lever engaged by said finger and controlling the action of said lower jaw through the medium of the engaging finger, and means for operating the jaw, substantially as specified.

4. The combination with an upper pivoted jaw of a draw head, and a pivoted lower jaw co-operating therewith, of a retracting lever mechanically connected to said lower jaw, a cam acting handing lever connected to said lower jaw and controlling the movement thereof against the influence of the retracting lever, and a limiting agency for said cam lever restricting the drop of the retracting lever, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOB. C. HUGULEY.

Witnesses:
A. HUGULEY,
R. T. SHELTON.