(No Model.)

J. A. HINSON.

CAR COUPLING.

No. 571,229. Patented Nov. 10, 1896.

Fig. 1.

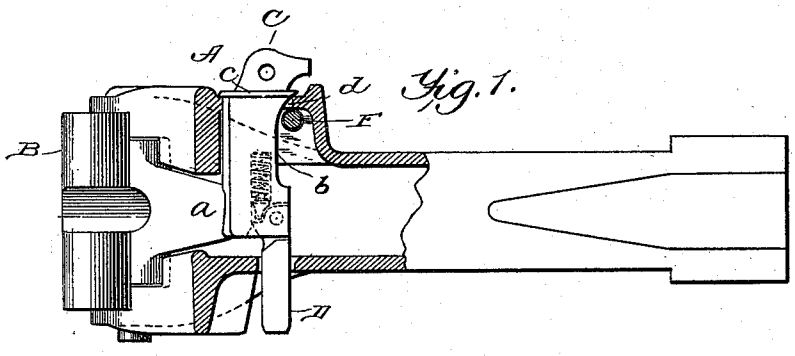


Fig. 2.

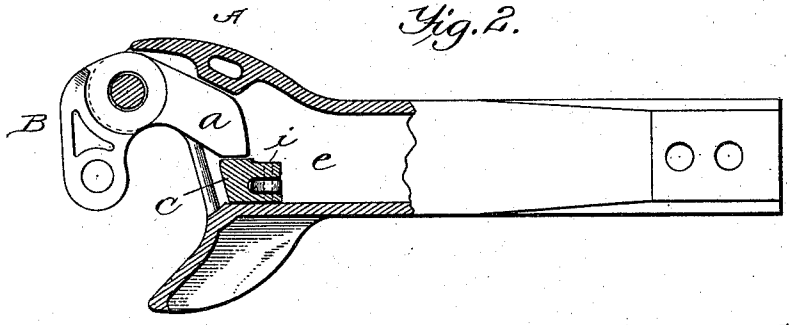


Fig. 3.

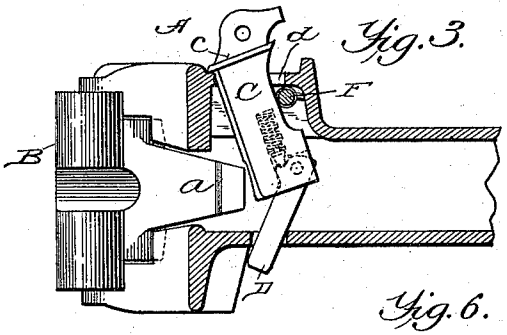


Fig. 4.

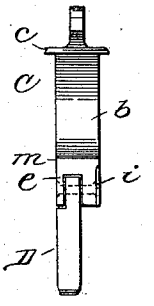


Fig. 5.

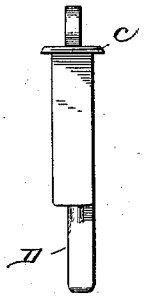
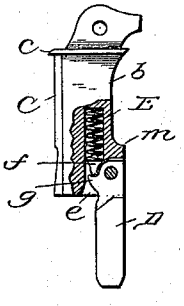


Fig. 6.



WITNESSES:

Harry S. Robson.

C. D. Hinrichs.

INVENTOR

James A. Hinson

BY

W. A. Redmond

ATTORNEY.

UNITED STATES PATENT OFFICE.

JAMES A. HINSON, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 571,229, dated November 10, 1896.

Application filed October 7, 1896. Serial No. 608,131. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. HINSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates generally to automatic car-couplers, and particularly to that type of car-coupler in which a suspended latch is employed; and it has for it object to provide a latch of simple construction, great durability, and comparatively inexpensive, on which the jolting of the cars has no vibrating or shaking effect tending to release the knuckle and the danger of accidental withdrawal of the lock from the draw-head is obviated; and it consists of the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a longitudinal vertical section through the draw-head of a car-coupler provided with my improved locking device, the latter being shown in its normal position; Fig. 2, a plan view of the same, partly in section; Fig. 3, a longitudinal vertical section through the draw-head, showing the locking device in the position it assumes when in the act of making a coupling; Fig. 4, a rear elevation of my improved latch; Fig. 5, a front elevation of the same; and Fig. 6, a side elevation of the latch, partly broken away.

Similar letters refer to similar parts throughout the several views.

A represents a draw-head, and B a knuckle pivoted therein so that its tailpiece *a* may engage and swing the locking-latch C back out of its path when the knuckle is swung on its pivots to make a coupling. The liability of the latches of this type as at present arranged to vibrate or swing back and forth from the jolting of the cars and the application of the air-brakes thereto and thereby release the knuckle is so great that various means have been employed to prevent vibration and to hold the lock or latch normally forward in its correct position and thereby prevent accidental release of the knuckle. Where the latch is pivotally mounted in the draw-head, a spring is usually applied so as to exert its strength on the rear of the latch, but this is obviously impracticable where the latch is loosely hung through and from the latch-opening in the draw-head and must be raised vertically out of the path of the tail-piece to release the knuckle, but since the latter arrangement of the latch in the draw-head possesses many advantages over the pivoted latch, among them being ease of renewal and less liability to clog in operation, such arrangement is more desirable, providing the vibration of the latch may be prevented without the use of complicated or expensive means, and the good features of such latches, such as certainty and ease of operation in coupling and the easy replacement of damaged or broken latches, retained.

Now it is my object to provide a latch which may be loosely hung in the draw-head, its accidental withdrawal therefrom prevented, its vibration from jolting or concussion of cars prevented, and which will maintain its proper position under all conditions. To accomplish this object, I provide a latch C, having its rear edge cut away or otherwise formed on a curving line, as at *b*, from a shoulder *m* above its bottom or lower end to the flange *c*, which is cast thereon at its upper end and which supports it in the latch-opening *d* of the draw-head, said curved form of the rear edge of the latch permitting of its being swung back in the draw-head, as shown in Fig. 3, when struck by the knuckle-tailpiece in making a coupling. In the bottom and rear edge of the latch is formed a groove or recess *e* to receive the end of a bar D and which is pivotally held therein by a pin passing through said latch and bar. The end of said bar is rounded on its forward face, as at *f*, and a nose or shoulder *g* is formed thereon, against which a spring E, inserted in a recess formed in the body of the latch, presses through the medium of a shouldered pin *h*, interposed between said shoulder *g* and spring E.

The bar D extends through an opening formed for it in the bottom of the draw-head.

The upper end of the bar is adapted to fit accurately against the top of the recess or groove *e*, and the tendency of the spring E is to normally hold these parts in contact. Thus when the tailpiece of the knuckle strikes the latch and forces or swings it back the bar turns on its pin and its shoulder *g* compresses the spring; but the instant the tailpiece passes off the latch the spring exerts its power on the shoulder *g*, and, as the bar is pressing against the end wall of the opening through which it extends, forces the bar to a vertical position and materially aids gravitation in returning the latch promptly in front of the tailpiece to lock the same in its coupled position. The spring, it will be observed, also prevents vibration of the latch, as it normally holds the bar in its vertical position, and movement of the latter is prevented by the walls of the opening in the draw-head through which it extends. The latch is also recessed or cut away on its rear face at the bottom, as at *i*, so that should an unusually long tailpiece be encountered it could have no effect to pinch or press together the walls of the recess *e*, and thus clamp on the bar D and interfere with its movement.

In the buffing offset of the draw-head openings are formed for a pin F immediately below the latch-opening therein, the object of which is to engage the rear edge of the latch and prevent its accidental withdrawal from the draw-head.

It is evident from the above description that the latch when struck by the tailpiece of the knuckle will be swung back, as shown in Fig. 3, out of the path of the tailpiece, turning, as on a fulcrum, at the front end of the latch-opening where its flange bears, and that as soon as the tailpiece passes off the latch said latch will gravitate back into its vertical position and thereby lock the tailpiece in place. The return of the latch to its vertical position is materially accelerated by the spring E, as above explained.

To release the knuckle, it is only necessary to raise the latch bodily till its lower end clears the tailpiece, when the latter may be swung out to uncouple the cars.

Thus it will be observed that I provide a latch in two pieces, so connected as to be practically one piece and of sufficient strength to maintain its rigidity as one piece against jolting or jarring of the cars, but yet sufficiently flexible at the point of connection as to yield when struck by the tailpiece of the knuckle to permit the tailpiece to pass the same, and the parts of which instantly resume their vertical alinement and lock the tailpiece in place when the latter passes off said latch.

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

1. The combination, in a car-coupler, of a pendent latch having a bar jointed thereto and extending through the lower wall of the draw-head, and a spring engaging said bar to normally hold it in vertical alinement with said latch, substantially as described.

2. The combination, in a car-coupler, of a pendent latch having a bar jointed thereto and extending through the lower wall of the draw-head, a spring engaging said bar to normally hold the same in vertical alinement with said latch and prevent vibration of the latter, and means adapted to engage the latch to prevent its accidental withdrawal from the draw-head, substantially as described.

3. The combination, in a car-coupler, of a pendent latch having curved rear edge and a shoulder, a bar jointed to said latch and extending through the lower wall of the draw-head, a spring engaging said bar to prevent vibration of latch, and a pin arranged in the draw-head and adapted to engage the shoulder of the latch to prevent accidental withdrawal of the latter, substantially as described.

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

JAMES A. HINSON.

Witnesses:
HARRY S. ROHRER,
HELEN E. PARKER.