L. & J. K. HUDDLE.

Car Coupling.

No. 111,123. Patented Jan. 24, 1871.

Fig. 1

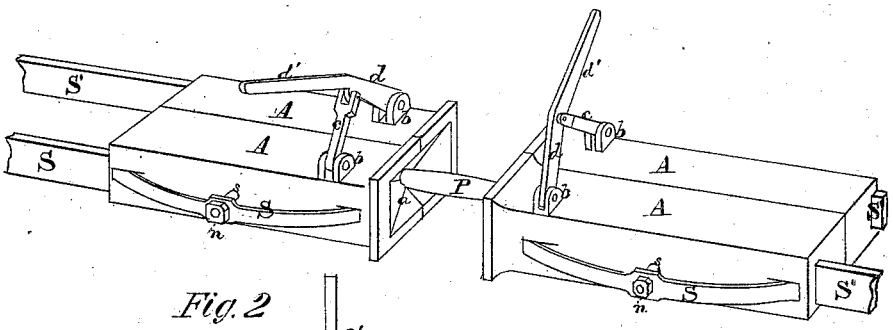


Fig. 2

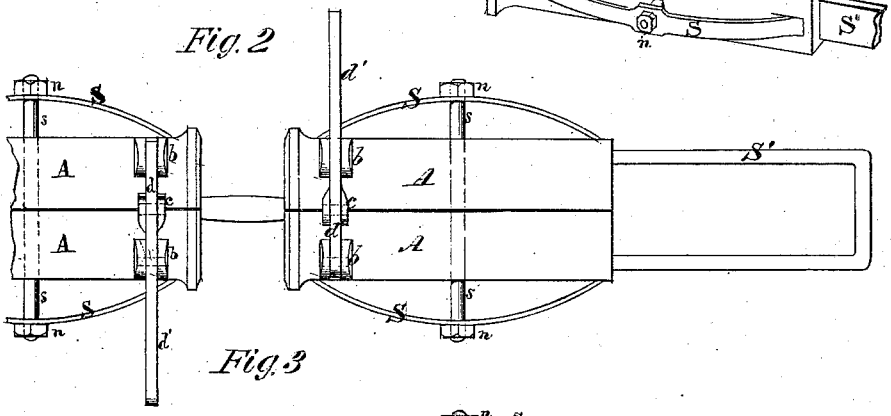


Fig. 3

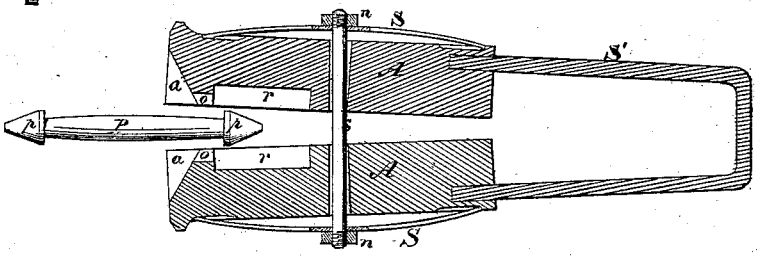
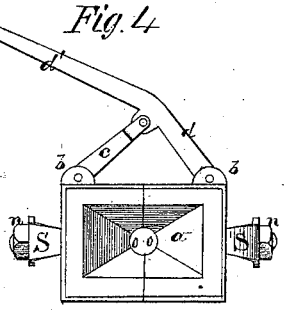


Fig. 4



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UNITED STATES PATENT OFFICE.

LEWIS HUDDLE AND JACOB K. HUDDLE, OF TIFFIN, OHIO.

IMPROVEMENT IN RAILWAY-CAR COUPLINGS.

Specification forming part of Letters Patent No. **111,123**, dated January 24, 1871.

To all whom it may concern:

Be it known that we, LEWIS HUDDLE and JACOB K. HUDDLE, of Tiffin, in the county of Seneca and State of Ohio, have invented a new and Improved Car-Coupling; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a perspective view of the improved coupling, the rear springs of which are broken away. Fig. 2 is a plan view, showing one of the buffers and its rear spring complete, and a portion of the other buffer broken away. Fig. 3 is a horizontal section through one of the buffers, showing it separated to allow the coupling-pin to be removed. Fig. 4 is an end view of one of the buffers.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain improvements on railroad-car couplings, which, in the event of one car leaving the track, will automatically uncouple, and which will also couple automatically when one car is caused to abut against another on the track.

Our invention consists of an improvement in the divided coupling draw-heads patented by Henfield, September 3. 1867.

First, we have improved said draw-heads by applying springs on the outside of the halves of the head, and connecting them to a rod in such a manner that they act as auxiliaries to aid the spring for closing the halves.

Second, by applying the toggle-lever, which is used for opening the halves of the draw-head, forward of the fulcrum upon which the halves open, whereby the draw-head may be made much shorter and still be under the control of the attendant.

To enable others skilled in the art to understand our invention, we will describe its construction and operation.

In the accompanying drawing, Figs. 1 and 2, we have represented two of the improved buffers coupled by means of a round double-headed pin, P, and as both buffers are constructed precisely alike a description of one will apply to the other. Each buffer is composed of two longitudinally-divided halves, A A, which are held together by means of side springs S S and a rear V-shaped spring, S′. The ends of the V-shaped spring S′ are cast into the rear ends of the halves A A, or otherwise secured thereto, and the springs S S are applied to the vertical sides of the buffer and held by means of a transverse bar, *s*, and nuts *n n*. These latter springs are preferably made of the semi-elliptical form, and their extremities are fitted into oblong recesses made into the vertical sides of the buffer. By means of the three springs above described, the two parts composing the buffer are held forcibly together, as represented in Figs. 1, 2, and 4. The front enlarged end of this buffer presents a conical or pyramidal depression, terminating at its apex in a round hole, which is of less diameter than the heads *p p* of the coupling-pin P. The two walls *o o* inclosing said hole or passage are respectively formed into the two longitudinal buffer-sections, A A, so that when these sections are spread apart, as represented by Fig. 3, the head of coupling-pin P can be introduced or withdrawn.

In rear of the hole *o* are two shoulders, which are formed by making recesses *r r* into the abutting surfaces of the sections A A, which recesses receive the coupling-pin head and allow vertical as well as longitudinal motion.

The surfaces surrounding the flaring depression *a* in the buffer-head, as well as the surfaces surrounding the hole and forming the interior shoulder, may be cast on a chill, so as not to readily wear away by the action of the coupling-pin.

Instead of a single flaring mouth or depression, *a*, two or more may be formed into the buffer-head, each one terminating backward in a circular passage, a shoulder, and an interior depression to receive the coupling-pin. This will adapt the buffer to cars having platforms of different heights.

On top of the buffer, and near its enlarged head, are two ears, *b b*, one on each section A, and to these ears levers *c d* are jointed, which levers are jointed together above the central line of the buffer. The extension *d′* of lever *d* affords a handle by which to press down upon the levers, and thereby spread the sections A A apart, as shown in Fig. 3, thereby allowing the head of the coupling-pin to be removed from the buffer. For freight-cars a rod leading from the lever-extension *d′* to the top of

the car will be employed, so that the uncoupling can be effected by a person on top of the car.

The coupling-pin P is round at every point, and is terminated by conical heads *p p*. The shaft of this pin is largest at the middle of its length, and tapers to the circular shoulders at the bases of the conical heads *p p*, thus leaving behind said shoulders the circular necks of the pins, which are loosely embraced by the walls of the opening *o* when a pin is held by the buffer.

The ends of the heads of the pin, acting against the flaring sides of the depression *a* in the end of the buffer, will spread apart the sections or halves A A, and allow cars to be coupled by simply bringing them together; and in the event of a car leaving the track the pin P will act as a lever against both of the sections A A, spread these sections apart, and become uncoupled.

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

1. The combination of the rod *s* and springs S S with the draw-head halves A A, substantially in the manner described.

2. The combination of the toggle-lever *c d d'*, draw-head halves A A, and U spring S', the said parts being so combined that the toggle-lever is placed forward of the spring-fulcrum of the draw-head, all as described.

3. The combination of the draw-head halves A A, spring S', toggle-lever *c d*, springs S S, and rod *s*, substantially in the manner described.

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