No. 48,617. PATENTED JULY 4, 1865.

W. C. CLARK.
CAR COUPLING.

Fig. 1.

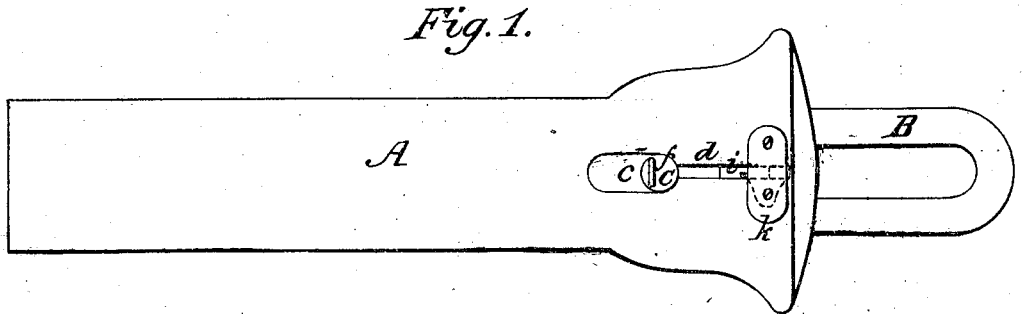
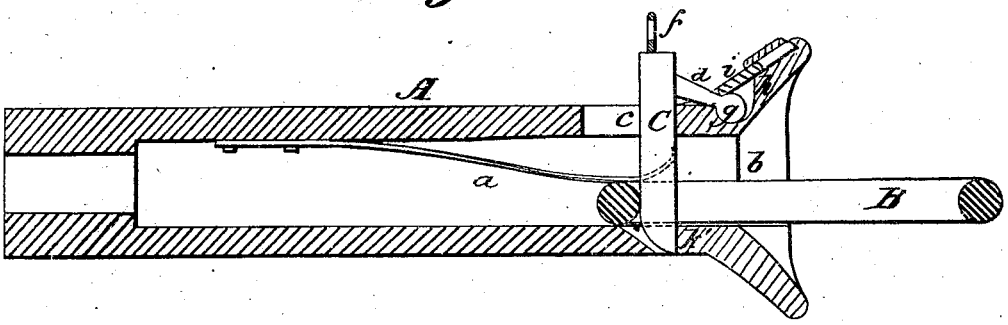


Fig. 2.



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UNITED STATES PATENT OFFICE.

WM. C. CLARK, OF PORTLAND, MAINE, ASSIGNOR TO HIMSELF, W. D. RICHARDS, OF LYNN, AND WM. H. SKINNER, OF LEXINGTON, MASS.

IMPROVED CAR-COUPLING.

Specification forming part of Letters Patent No. **48,617**, dated July 4, 1865.

To all whom it may concern:

Be it known that I, WILLIAM C. CLARK, of Portland, in the county of Cumberland and State of Maine, have invented an Improved Coupling for Railway-Carriages; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, and Fig. 2 a longitudinal section, of it.

My invention may be regarded in the light of an improvement on that for which Letters Patent of the United States numbered 40,820, and dated the 8th day of December, in the year 1863, were granted to me. The main invention covered by such patent consisted in the application of the link-holding pin to the bunter-bar, so that such pin may be capable not only of swinging on a fulcrum in manner and under circumstances as stated in the specification of such patent, but of being raised off the fulcrum in order to disconnect the link from the bunter-bar.

In carrying out my present invention or improvement I employ, instead of a link and a bar for supporting the link-pin, not only a headed arm projecting from the said pin, but a socket in the bunter to receive the head of such arm, such socket being provided with a spring-latch, which serves to keep the head of such arm within the socket, under ordinary circumstances, and allows it to be withdrawn therefrom on an attempt being made to raise the hook in order to free the link from the bunter. The headed arm facilitates the elevation of the lower end of the pin during the operation of coupling the link to the bunter-bar. Furthermore, the arrangement of the spring-latch is such that an upward pull on the pin will cause the latch to retreat and allow the escape of the arm-head from its socket. In my former invention the latch used in holding the pin on its fulcrum had to be retracted by a power separate from that employed to elevate the pin.

In the drawings, A denotes the bunter-bar, the link-recess *a* of which is provided, in the usual manner, with a tunnel or flaring-shaped mouth, *b*, for directing the link into the recess.

B is the link, and C is the pin for coupling the said link to the bunter-bar A.

Leading from the link-recess, and out of the upper part of the bunter-bar, and just in rear of the mouth *b*, is a slot or passage, *c*, formed as shown in the drawings, such slot being for the reception of the link-pin C, which at its top has a staple or eye, *f*, for enabling a chain or rope to be attached to the pin for the purpose of elevating it out of the bunter-bar, so as to uncouple the link therefrom. From the pin an arm, *d*, is extended, as shown in the drawings, such arm being provided with a round head, *g*, which enters a socket or recess, *h*, arranged in the bunter-bar, as shown in Fig. 2. In the upper part of the said socket there is a spring-latch, *i*, formed as shown in the said figure, the spring for operating it being exhibited in red lines at *k* in Fig. 1. On pressing the head *g* of the arm *d* against the end of the latch the latch will give way and allow the head to enter the socket *h*. After the entrance of the head into the socket *h* may have been effected the latch will be forced over the head and so as to preserve it in the socket until the pin may be pulled upward, in order to disengage the link from the bunter. The latch will give way under the force operating to extract the pin, and will allow the head of the arm to be drawn out of the socket.

In the operation of coupling two carriages the link projecting from the bunter-bar of one will be driven into the mouth of the bunter-bar of the other, and in so doing will be forced endwise against the connection-pin of the latter bar, and will press it backward and cause its arm-head to turn in the socket sufficiently for the link to enter the recess of the bunter far enough to allow the pin to drop down through the link and into place against a shoulder, *k'*, formed in the bunter-bar. After the pin may have so descended, which by the action of gravity it will be caused to do, the link will be coupled to the bunter-bar.

Another and important advantage of the headed arm and its socket is that they prevent the pin from becoming accidentally disengaged from the bunter-bar by a sudden forward motion of the link while the lower end of the pin may be passing over the round end of the link—an accident to which my former invention may be said to be liable. Thus it will be seen that although the headed arm and its sockets ap-

plied to the pin and bunter-bar embrace my patented invention they contain one or more additional mechanical elements or features which render them capable of performing one or more additional functions.

With my improved coupling all necessity of the dangerous exposure of a person to effect the coupling of two cars by going between them will be avoided, it being well known that in consequence of such exposure many individuals have been either killed outright or severely injured.

I do not herein claim what is or may be claimed in my said patent; but

What I now claim as my improvement is as follows—that is to say:

1. The combination of the arm *d* and its socket *h* with the link-pin C and the bunter-bar, the whole being arranged and so as to operate substantially as specified.

2. The above described arrangement or application of the spring-latch with the socket *h*—that is, so as to operate with the head of the arm *b* in manner and under circumstances substantially as specified.

Witnesses: W. C. CLARK.

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