2 Sheets--Sheet 1.

J. G. BAADER.

Car-Coupling.

No. 162,879. Patented May 4, 1875.

Fig. 1.

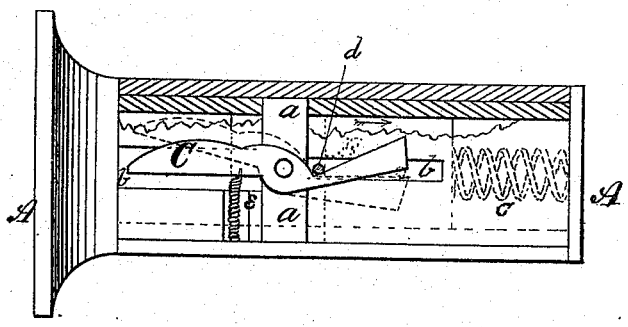
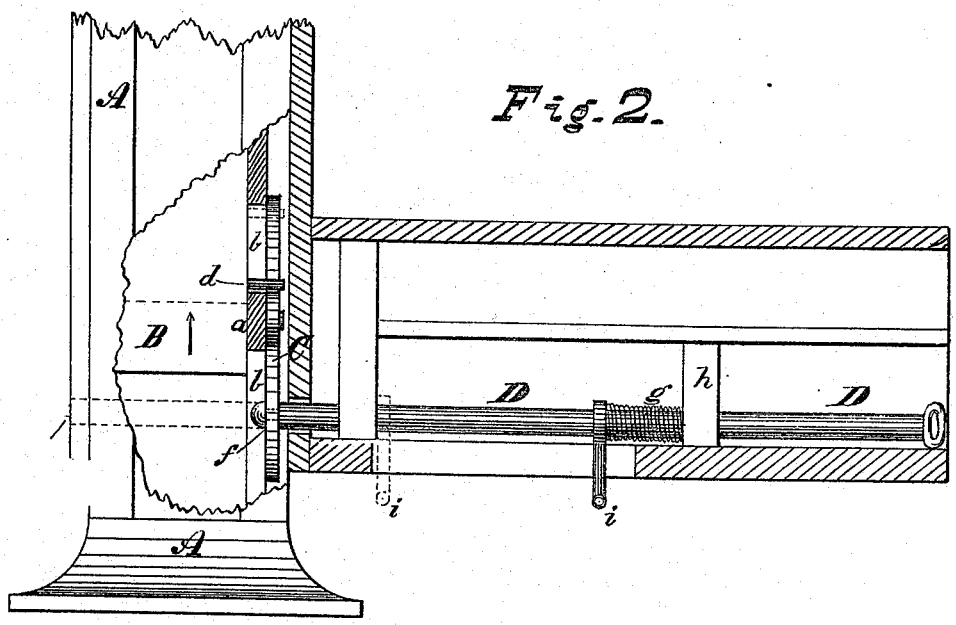


Fig. 2.



Witnesses

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2 Sheets--Sheet 2.

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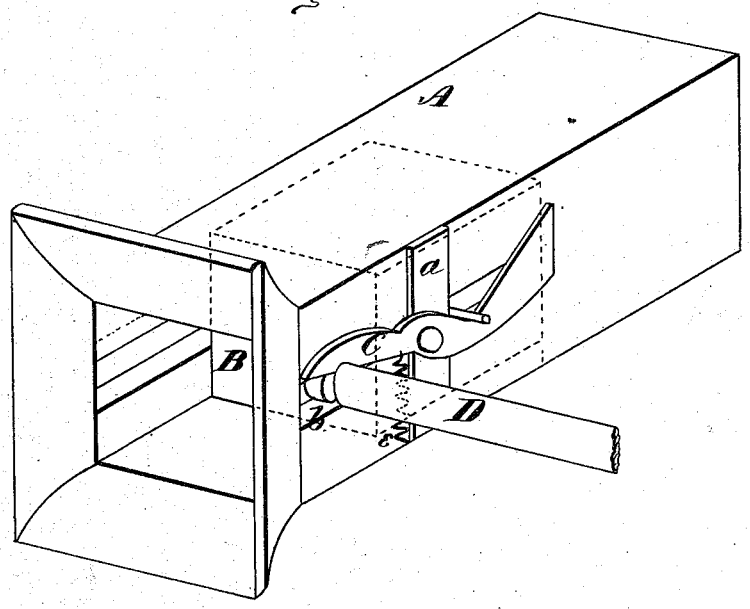
No. 162,879. Patented May 4, 1875.

Fig 3



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UNITED STATES PATENT OFFICE.

JOHANN G. BAADER, OF ST. VINCENT'S, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **162,879**, dated May 4, 1875; application filed March 2, 1875.

To all whom it may concern:

Be it known that I, JOHANN G. BAADER, of St. Vincent's, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation of draw-head, showing mechanism of trigger. Fig. 2 is a plan view of my invention, showing the working of bolt, &c. Fig. 3 is a perspective view of my invention.

This invention relates to a new and useful device for automatically coupling cars, at the same time providing a convenient and easy control of the same, so that at any time, in motion or at rest, whether the brakeman be on or off the cars, he can, by one simple motion, uncouple the connected cars. For the attainment of these objects my invention consists of a secondary draw-head or buffer, placed inside the ordinary one, and sliding in it, and of a permanent bolt, which is placed horizontally, and works laterally, the link, being on its side, allowing the bolt or pin to pass through it from side to side of the draw-head, in combination with a spring-trigger, whose normal position is such as to remain down and engage in an annular groove near the head of the bolt, so that when the latter is withdrawn clear of the link a sufficient distance the trigger falls into the groove, and retains the bolt in an open position, the trigger being lifted and the spring-bolt released for coupling by the incoming link driving the secondary draw-head backward, whereby a pin in the side of the latter slides along the inclined upper edge of the trigger, depressing that, and raising the opposite end out of the groove in the bolt. The sole function of this secondary draw-head is to be driven back by the link, and thereby release the bolt. My invention further consists in a spring behind the secondary draw-head or buffer, of a strength sufficient to overcome its inertia, so that when its function is performed it will immediately return to its normal position, and be ready for further use. To accomplish these purposes my construction is as follows, the parts being designated in the drawings herewith by letters of reference:

The main draw-head A need not differ from its old form for hand-coupling; but on one side I construct a bearing, *a*, for the trigger, leaving a horizontal slot, *b*, on either side of the same, one for the bolt, and one for the pin on the secondary draw-head B. This latter is now placed within with its spring *c*, and the pin *d* inserted in its side, leaving its outer end projecting through and beyond the slot, so as to bear upon the trigger C, which is pivoted at or near its middle point to the bearing *a* on the draw-head A, and is placed horizontally, so that its outer portion will engage with the groove in the bolt, and its inner portion's upper edge come in the way of the pin *d*. To a point on the outer portion of the trigger I attach a retractile spring, *e*, which, being also fastened to the draw-head A, tends to pull the trigger down continually. These positions, however, may be altered with like results. Through both sides of the main draw-head A holes are cut, if necessary, for the play of the bolt through the link, and into proper bearings. The bolt D is formed with an annular groove, *f*, near its end to receive the trigger. For the purpose of allowing convenient access from the side of the platform, this bolt must be longer than usual; but this extra length may be of wood or other material. The bolt is kept in its closed position after coupling by the projectile spring *g*, which plays against a shoulder on the bolt, or its continuation, and a bearing, *h*, in the timbers of the platform or body of the car. Out from the bolt extends a handle, *i*, which may be bent upward, or extend directly upward, and slides in a slot cut in the timbers or stays of the car. This is intended to put the bolt under the control of a person standing on the platform. On the end of the bolt D, at the side of the platform, I construct a handle, so that it may be withdrawn from the link, and back to the engaging-point of the trigger. The construction of the bearings for the bolt necessitates an open space under the floor of the platform. I box up this space, leaving a place for extra links, covering the opening at the outside with a hinged door, or portion of the

steps in a passenger-coach. This covers the mechanism, so as to exclude moisture and dirt, and preserves the working parts unharmed by weather or other causes.

The device may be made to work from either side by connecting with the bolt a curved rod extending under or over the draw-head to the opposite side. This places the working of the coupling at the control of one on either side, or on the platform of the car.

The *modus operandi* is as follows: To couple, the link is adjusted and ready in one draw-head, and is simply allowed to strike the interior or secondary draw-head of the other. This pushes the pin backward, which impinges on the inclined edge of the trigger, whose opposite end is thus forced upward out of the groove in the bolt, which, being released, springs through the link and into its bearing on the other side, and the coupling is completed. To uncouple, if the brakeman be on the platform, with his foot he moves the pin or handle *i* back; or, if he be at the side of the car, opens the hinged door, and pulls on the handle at the end of the bolt. This brings the bolt back through and beyond the link, and the uncoupling is done. When the bolt has reached the limit of its backward movement the groove comes under the trigger, which instantly flies into it, and retains the bolt open and ready for the next coupling. For different heights I use a bent link.

I wish to state that I consider my invention as applicable equally well to hooks, and therefore do not confine its scope to the use of links.

I claim—

1. In a car-coupling having the draw-head A, secondary buffer B, and transverse coupling-bolt D, the centrally-pivoted trigger C at the side of the draw-head, to be operated from the buffer by means of the pin *d*, substantially as described and shown.

2. The combination of the laterally-placed trigger C, spring *e*, secondary buffer B, pin *d*, and transverse coupling-bolt D, having the groove *f*, substantially as described and shown.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of February, 1875.

JOHANN GEORGE BAADER.

Witnesses:
T. J. McTIGHE,
A. CORCORAN.