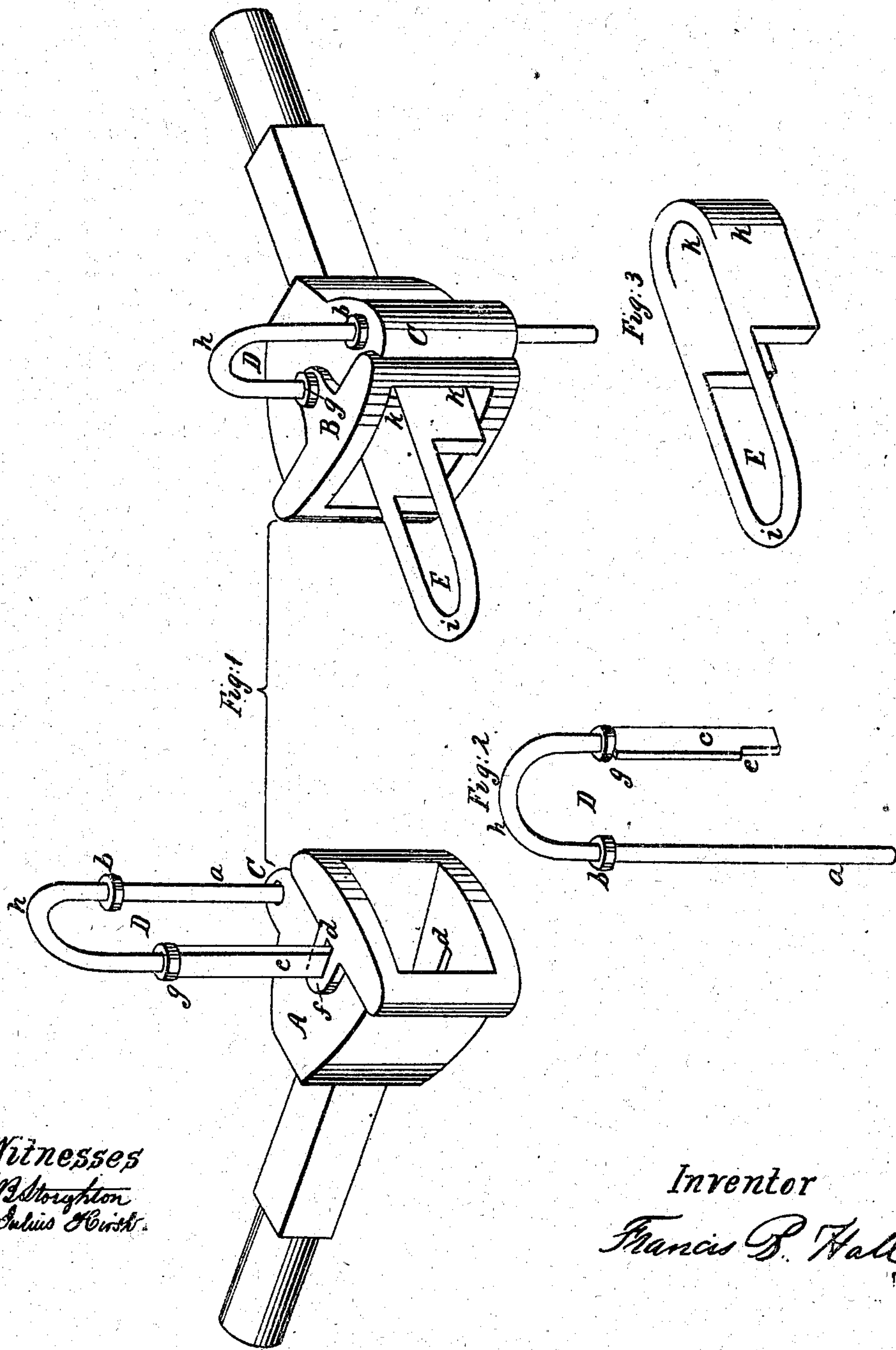


F. B. HALL.  
CAR COUPLING.

No. 32,223.

Patented Apr. 30, 1861.



Witnesses  
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# UNITED STATES PATENT OFFICE.

FRANCIS B. HALL, OF HARTFORD, CONNECTICUT.

## CAR-COUPLING.

Specification of Letters Patent No. 32,223, dated April 30, 1861.

*To all whom it may concern:*

Be it known that I, FRANCIS B. HALL, of Hartford, in the county of Hartford and State of Connecticut, 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 construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents in perspective the two buffer blocks, of two adjacent cars—one having the link set in it, in position for entering its fellow buffer, and the other one having the pin set, so as to drop into the link of its fellow, when the two are run together. Fig. 2, represents one of the bolts or pins detached, by which the cars are coupled, and Fig. 3, represents the link, which is made counterpoised so as to set in proper position to enter the buffer of the car to which it is to be coupled, without being held up by the hand.

I am aware that a Z shaped link, and a U shaped bolt, have been used in connection with car couplings; and that both a single straight bolt, as well as the bowed one, have been made to drop through and catch the link by the blow or rebound of the buffer in the first, and the sliding of a separate block in the second named case. I claim neither of these things, but an improvement upon both of them.

My object is to make a common buffer that, is in general use, applicable to a self-coupling device so that they can be converted to this new arrangement, at very slight expense, and thus save much of the stock and fixtures of the present coupling arrangement, but do not limit myself, of course, to the utilizing of old buffer heads, as new ones may be made, to be used in connection with the link and bolt I have devised and arranged for this purpose.

A sliding block in the buffer, with a lever to set it up into position for holding up the bolt, that it may afterward be tripped by the concussion or butting up of the two cars, is complicated and expensive, and moreover, when out of order or broken, must go to the shop for repairs. But a greater objection to its use, is that it requires an attendant to set it first, before it will act, and it is a common saying with railroad men that, anything upon a car or an engine that must be "first

adjusted, before it can be used, is never adjusted, and therefore never used."

The bolt in all couplings must be raised before it is dropped through the link, and in my arrangement, I do only what is and must be universally done, viz: raise up the bolt, and leave it up, all the other actions are automatic.

My invention consists first in a bow or U shaped bolt—one arm of which is round, and is supported in a round socket or guide in which it can turn, and the other arm of which is flat, and drops through an oblong slot in the top and bottom of the buffer, and is moreover provided with a shoulder to rest, support, and hold it up previous to the coupling operation—both arms being furnished with collars to prevent them from dropping too far through their respective openings. And my invention further consists in a counterpoised, or overpoised link, that will so sit in the buffer, as that its projecting end shall maintain a horizontal position, and always fairly and freely enter the buffer of the car that is to be coupled to it, when run together.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A, B, represent a pair of buffer heads of the ordinary construction—with the exception of the part C for holding the round shank of the coupling bolt. This part may be attached to the buffer heads already constructed, but in new ones is better cast with the buffer head.

D, is the bow, or U shaped bolt—the leg *a* of which is round, so that it may be fitted, supported, and turned slightly in the swelled portion C, of the buffer head, a suitable hole or seat being made therein for that purpose; a collar *b*, is made upon this leg of the bolt to catch and hold it upon the buffer when down. The other leg *c* of the bolt, may be flat, and it passes into and through similarly shaped openings *d*, in the top and bottom parts of the buffer, and has upon it a shoulder *e* which catches upon the top of the buffer, as shown at *f*, on the left of Fig. 1, to hold it up preparatory to the running up of the cars that are to be coupled by it; it has also a collar *g*, to keep it from dropping too far, and this collar together with the collar *b*, upon the other leg, prevent the bolt from getting cramped or bound in its



openings; the bow-part *h*, serves as a handle or bail by which the bolt can be raised up to uncouple the cars.

E, is the counterpoised or overpoised link. Its end *i*, that projects from the buffer, is of the ordinary form or construction, but the other end *k*, is made solid, or heavy enough to sit fairly upon the bottom of its buffer head, and hold the projecting end *i* in a horizontal position so that it may fairly enter the other buffer of the pair; and by turning over this link, in a position the reverse of that shown in the drawings, it will be perceived that it will lower the part *i*, and thus this link may be adjusted to suit another buffer that may not be of the exact height of the one it sits in.

To arrange the bolt so as to make it self-coupling, it is only necessary to raise the bolt D, as shown in Fig. 1, and set the shoulder *e*, on the buffer; when the link E, is run into the buffer A, or the buffer A run up to, or over the link, said buffer is knocked or jarred out from under the bolt D, and the bolt being tripped falls through the link and forms the coupling.

The object in making the part *a* of the

bolt, and its seat or guide round, is that the bolt may swing far enough to allow its shoulder to catch upon the buffer. And the object of making the leg *c* flat, is to get strength in as little space as possible—otherwise it may be round. The projection C, instead of being the whole depth of the buffer, may be guide rings at top and bottom only.

Having thus fully described the nature and object of my invention, what I claim therein as new is—

1. In combination with a buffer head, and a permanent bolt-support connected thereto, a bow or U shaped bolt constructed, arranged and operating therewith, substantially as described.

2. A counterpoised or overpoised link, the weighted end of which will fairly sit in its buffer head, and hold the projecting end in a horizontal position so that it will fairly and truly enter the buffer head that it is to be connected with, substantially as described, and for the purpose set forth.

FRANCIS B. HALL.

Witnesses:

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