(No Model.)

2 Sheets—Sheet 1.

F. ATTOCK.

CAR COUPLING.

No. 287,082. Patented Oct. 23, 1883.

Fig. 1.

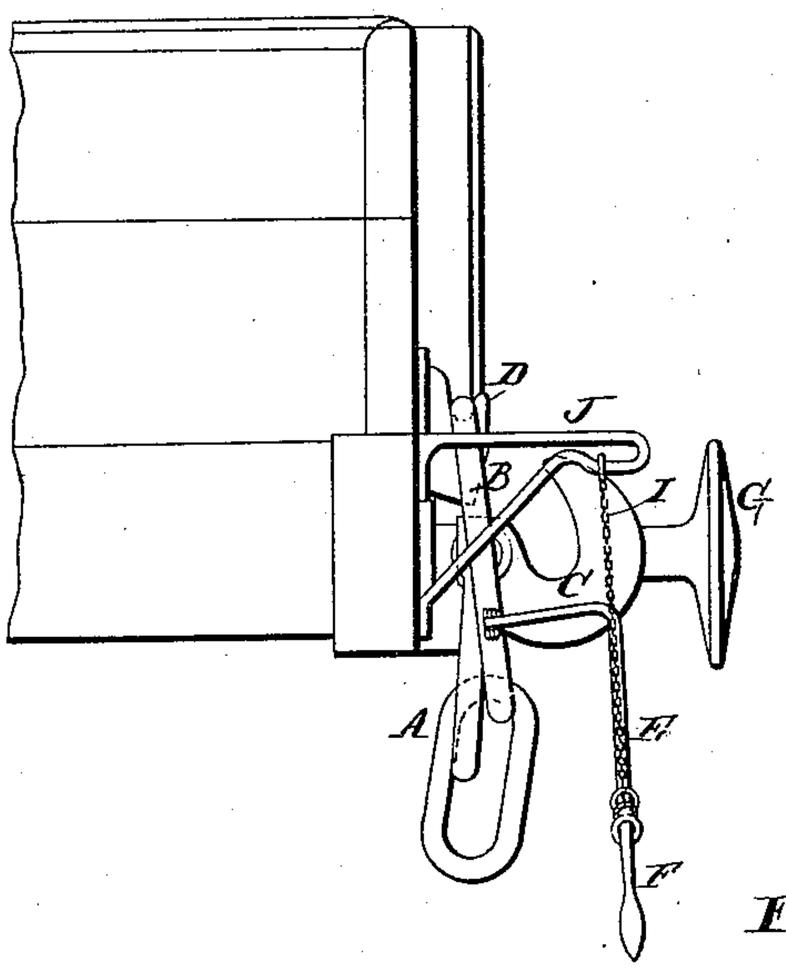


Fig. 3.

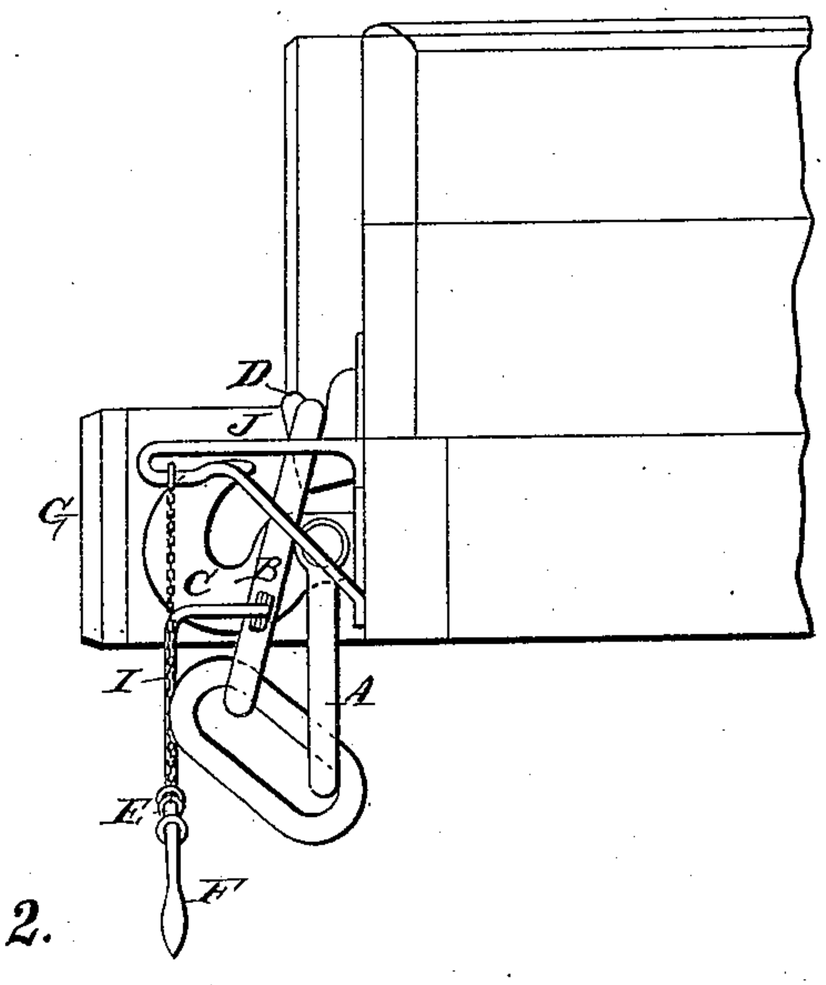
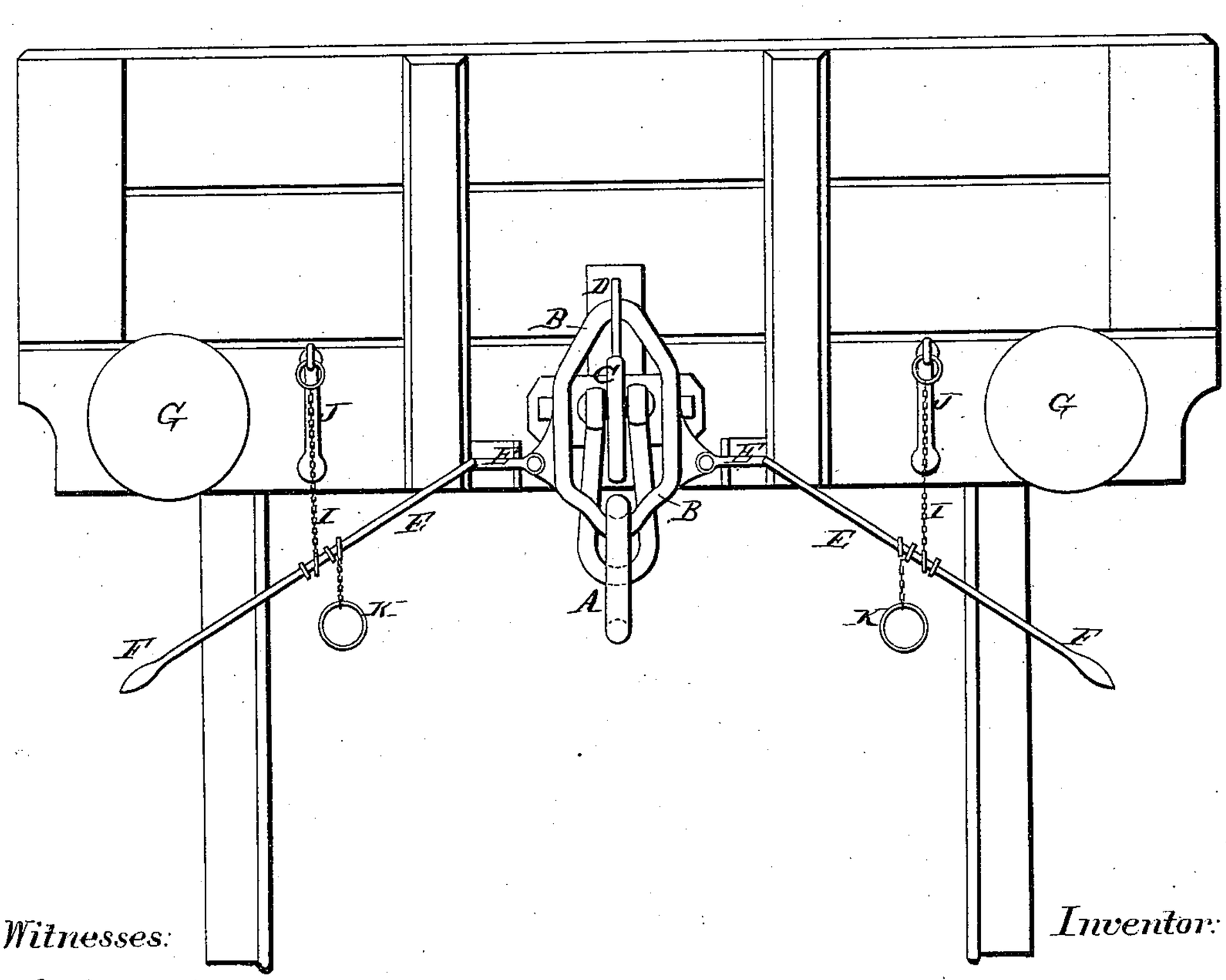


Fig. 2.



Witnesses:

J. Henry Kaiser.

Geo. E. Penney.

Inventor:

FREDERICK ATTOCK,

By Thos. L. Ewin,

Attorney.

(No Model.) 2 Sheets—Sheet 2.

F. ATTOCK.

CAR COUPLING.

No. 287,082. Patented Oct. 23, 1883.

Fig. 4.

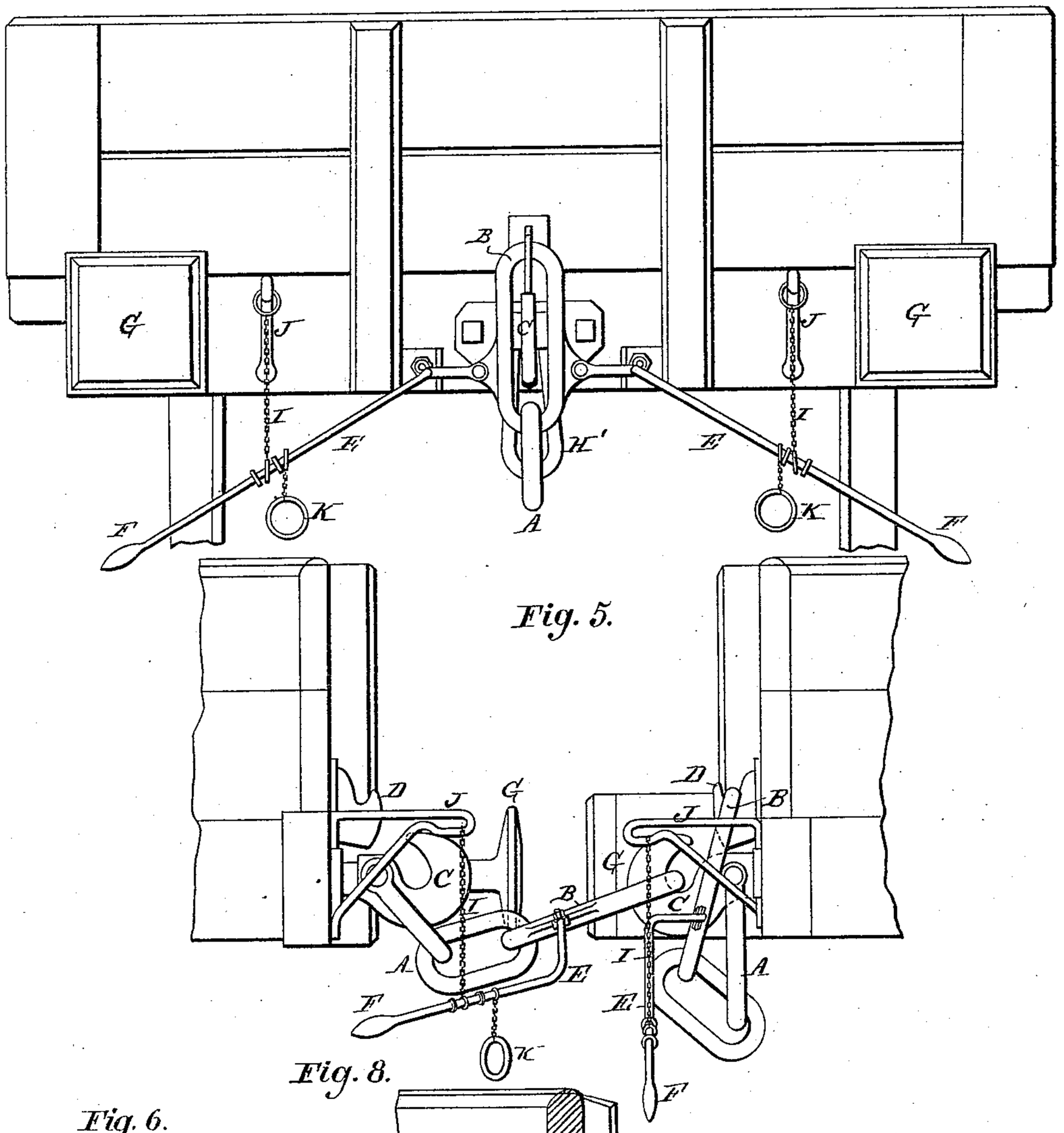
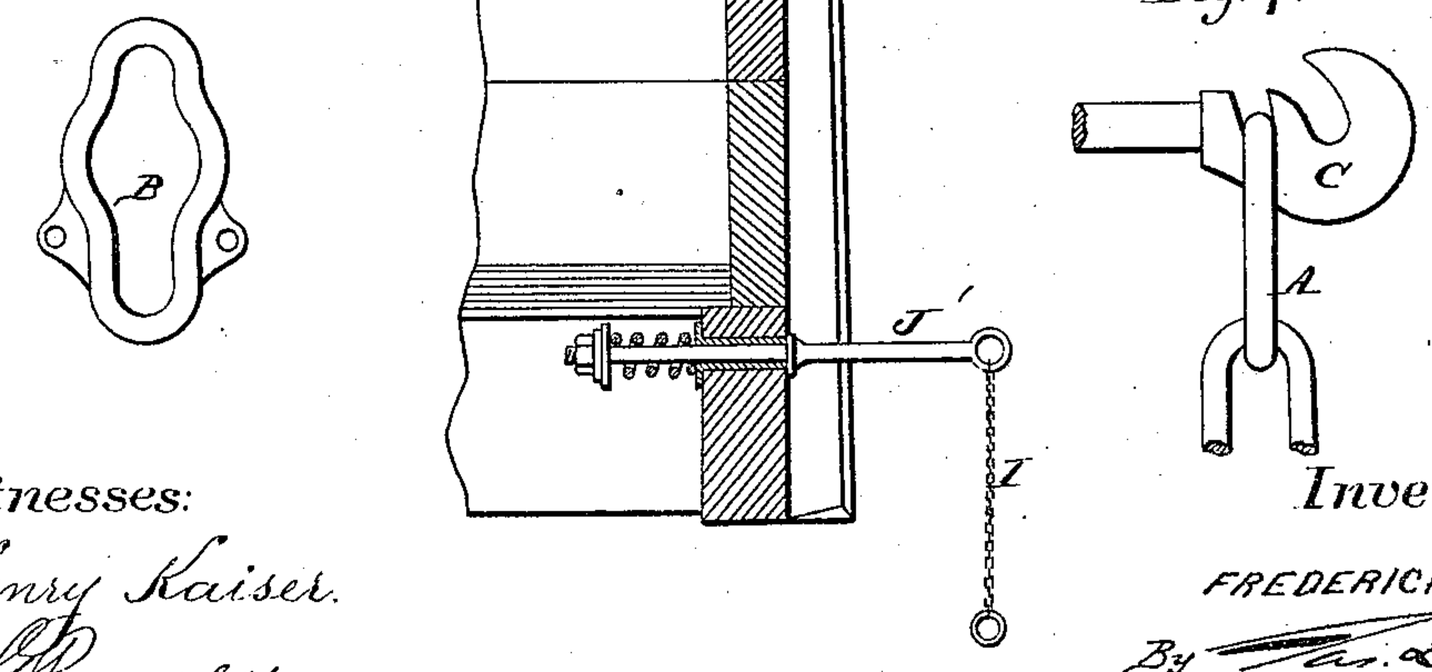


Fig. 5.

Fig. 8.

Fig. 6.

Fig. 7.



Witnesses:

J. Henry Kaiser.

Geo. G. Penney.

Inventor:

FREDERICK ATTOCK,

By Thos. L. Ewin,

Attorney.

UNITED STATES PATENT OFFICE.

FREDERICK ATTOCK, OF NEWTON-HEATH, NEAR MANCHESTER, COUNTY OF LANCASTER, ENGLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 287,082, dated October 23, 1883.

Application filed June 16, 1883. (No model.) Patented in England January 20, 1883, No. 342.

To all whom it may concern:

Be it known that I, FREDERICK ATTOCK, a subject of the Queen of Great Britain and Ireland, residing at Newton-Heath, near Manchester, in the county of Lancaster, England, have invented a certain new and useful Improvement in Car-Couplings, (for which I have obtained British Letters Patent No. 342 of 1883, dated January 20,) of which the following is a specification.

The primary object of this invention, in common with many others, is to so improve the coupling apparatus of railway-cars that the same may be readily coupled and uncoupled from either side of the train without the attendants having to pass between the cars to couple and uncouple them.

The present invention consists in an improved chain-and-hook coupling adapted in a peculiar manner to be so manipulated, and at the same time rendered very compact while out of use, and ready at all times for instantaneous unobstructed employment, as hereinafter more fully set forth.

Two sheets of drawings accompany this specification as part thereof. Figure 1 of these drawings is a side view, and Fig. 2 an end view, of a railway freight-car having my improved coupling applied thereto. This car is shown fitted with spring-buffers. Fig. 3 is a side view, and Fig. 4 an end view, of a railway freight-car with dead or solid buffers and my improved coupling. Fig. 5 is a side view representing a pair of railway freight-cars of the respective patterns above mentioned coupled together in accordance with my invention. In the several side views the near buffers are omitted. Fig. 6 is a face view of a detached "last link." Fig. 7 is a side view of a draw-hook and a fragment of coupling-chain; and Fig. 8 is a sectional side view, showing a yielding lever-support, illustrating additional modifications.

In all the views the same letters of reference are used to denote similar parts.

In carrying out my invention I employ an ordinary coupling-chain, A; but I enlarge or elongate its last link B, so as to adapt the same to pass over the draw-hook C upon the draw-bar, to which such chain is linked, and, when not in use, to be hung up out of the way on a hook, D, provided therefor, immediately above said hook C, said last link B embracing said hook C while hanging on said hook D, as shown in Figs. 1, 2, 3, and 4, and at the right in Fig. 5. The draw-hook C protrudes, so as to be readily engaged by the chain of an opposite coupling, as seen in Fig. 5, while the unused chain is held in compact shape, and is always ready for instantaneous unobstructed use, even if the draw-hooks be in contact with each other, as said last link B, in the coupling operation, has simply to be unhooked from the supporting-hook D and passed longitudinally of the draw-bars from one coupling-hook over and into engagement with the other. The last link B of each coupling-chain is further provided at each side with a lever-arm, E, which is suitably attached thereto, and is preferably so attached near that end of the last link which is its lower end in its "supported" position, as seen in the drawings, this end of the link being weighted by the remainder of the chain, while its outer end is so left free from incumbrance, and the inner ends of the hand-levers are kept low between the buffers. The individual hand-lever extends outward, and terminates in a handle, F, conveniently located under the buffers G, and at a convenient height for the attendant to lay hold of. The fulcrum of this lever-arm E consists, by preference, of a short length of chain, I, suspended from a suitable bracket, J, affixed to the end of the car, and a ring, K, loosely attached by an additional piece of chain, forms a convenient supplemental handle at mid-length of the lever-arm.

It will be observed that the last links B illustrated in Figs. 1 to 5, inclusive, differ somewhat in form. This is owing to the position of the shackle and pin H, which permanently attaches the chain. In the one case, Fig. 2, the link B is widened out to pass over the shackle and pin H, while in the other, Fig. 4, the link B has not so to pass over, but hangs in front of the shackle and pin.

H′, Fig. 6, represents another form of last link. In some cases it would be practicable to dispense with the shackle and pin H and to engage the coupling-chain with a second notch

in the draw-hook, as indicated in Fig. 7, in which case a considerably narrower last link could be employed.

Instead of the rigid bracket J, I sometimes employ a spring-bracket, J′, as illustrated by Fig. 8. The latter yields in case the coupled cars become so far separated as to put a strain on the supporting-chain I.

The mode of using this improved car-coupling may be described as follows: Each end of the cars to be coupled being fitted with my improved coupling and the last links B being suspended upon their respective supporting-hooks D, all that is necessary in using the coupling is for the operator to place one hand on the handle F and the other in the ring K of the lever-arm E, at either side of one of the cars, when, by applying pressure upon the lever-arm, the chain I acting as its fulcrum, the operator has full control over the coupling-chain connected therewith, and can readily lift its last link B off its hook D and pass the former over and hook it into the draw-hook C of the other car, which completes the coupling operation; and in like manner uncoupling is readily effected without the attendant having to pass between the cars. Ordinarily an attendant on each side will operate the couplings with greater ease and rapidity. The arrangement is applicable to railway-cars having either continuous or non-continuous draw-bars, as well as to cars fitted with either spring or dead buffers, and, although only described as applied to freight-cars, is equally applicable to passenger-cars and other vehicles which are coupled together in trains.

I am aware that more or less complex hand-lever devices have before been applied to chain-and-hook car-couplings, so as to provide for coupling and uncoupling the same without passing between the cars; also, that in one case a supporting-hook has been provided above but to one side of the draw-hook of a chain-and-hook coupling, and in another case in a link-and-hook coupling the coupling-link is supported when out of use by an elevated hook above the draw-hook; but the coupling-link or the last link of the coupling-chain does not in any previous instance, so far as I know, embrace the draw-hook of its coupling when out of use, as in my coupling, and the latter is thus adapted to operate in a peculiar manner and with peculiar advantages, as hereinbefore set forth.

One great advantage of my coupling is that with the coupling-chains supported when out of use, so that their last links embrace the draw-hooks, as aforesaid, no difficulty is experienced in applying either coupling, even though the cars are "buffed up" close together, thereby dispensing with the necessity of having to separate the cars before they can be "coupled up," which is the case with all other chain-and-hook couplings known to me. This advantage is obtained, moreover, without sacrificing the simplicity, strength, and flexibility of the coupling-chain of two links and a shackle or several links, which distinguishes the class of couplings to which my invention is confined.

Having thus described my said improvement in car-couplings, I claim as my invention—

1. The combination, in a chain-and-hook coupling, of a coupling-chain, A, having an elongated last link, B, a pair of draw-hooks, C, to one of which said chain is attached, and a supporting-hook, D, immediately above the draw-hook last named, substantially as hereinbefore described, said last link hanging on said supporting-hook and embracing said draw-hook beneath when not coupled, as shown, for the purposes set forth.

2. The combination, in a chain-and-hook coupling, of a coupling-chain, A, having an elongated last link, B, a pair of draw-hooks, C, to one of which said chain is attached, a hook, D, immediately above the draw-hook last named, for supporting the uncoupled chain, with said last link embracing said draw-hook last named, and a pair of hand-levers, E, attached to said last link at their inner ends and supported by fulcrum-chains I, and provided with handle-rings K at mid-length, as shown, for transferring said last link B from said supporting-hook to the other draw-hook, or vice versa, in the manner set forth.

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

FREDERICK ATTOCK.

Witnesses:

JOHN G. WILSON,

GEORGE H. RICHMOND.