F. H. FICKETT.

CAR-COUPLINGS.

No. 194,514. Patented Aug. 28, 1877.

Fig. 1.

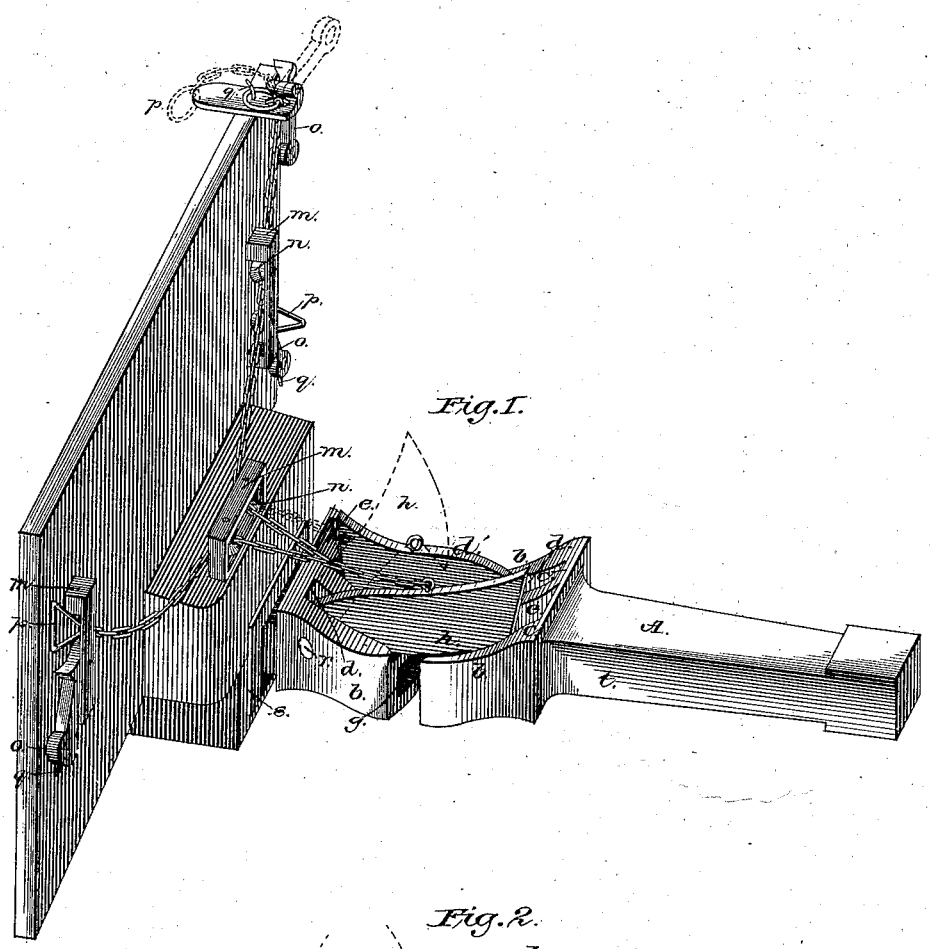


Fig. 2.

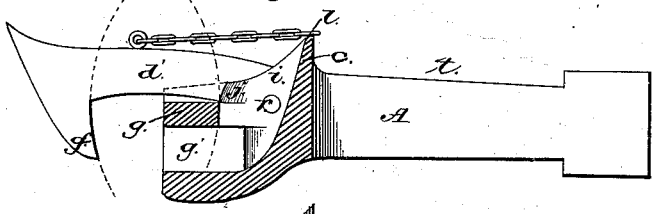
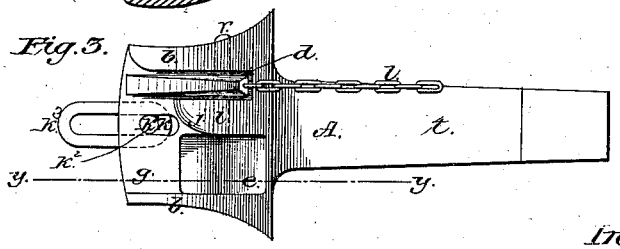


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

FRANKLIN H. FICKETT, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN W. REID, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **194,514**, dated August 28, 1877; application filed December 6, 1876.

To all whom it may concern:

Be it known that I, FRANKLIN H. FICKETT, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My improvements relate to the class of couplers which, while made automatic, are also so constructed that they are adapted for use with the ordinary link and bolt, so that where my coupler is applied to each of two connecting-cars, either of such cars may yet be readily coupled to any other car which has adaptation only for such ordinary link and bolt.

My improvement consists in a special means for locking the hooks out of action when desired, and as readily bringing them into action, and without going between the cars for these purposes, and whether the cars be running or standing, affording a quick means of disconnection.

Figure 1 is a perspective view of my improved coupler, one of the hooks being shown in dotted lines in its elevated position. Fig. 2 is a side elevation of one of the draw-heads, a portion being cut away at the dotted lines *y y*, shown in Fig. 3; Fig. 3, a top view of one of the draw-heads, and with a common link and bolt applied thereto.

The draw-head A is made in a single casting, and with its top part at its forward end depressed, so as to leave side walls *b b*, a central wall, and a solid rear wall, *c*, all rising above the solid bed *g*, the rear part of such bed being provided with one small recess or cavity, *d*, adapted to receive the pivotal end of a coupling-hook, *d'*, and with another but larger cavity, *e*, adapted to receive the catch *f* of another coupling-hook of similar make. The bottoms of these recesses or cavities *d* and *e* are solid, having no openings therein; and the only opening through the bottom of the draw-head is the opening *k* for the reception of an ordinary coupling-bolt, k^2, hereinafter named.

The catch *f* is made on its inner or hooking face with an unbroken curve extending to its tip, this curve being about in the arc of a circle of which the axis of the coupling-hook is the center, so that when it is desirable to lift it, even when the train is running, it can easily be done so as to "uncouple" without taking "the slack of the train," provided there is not too great a longitudinal strain upon the draw-heads.

When the coupling-hook is down it rests, by gravity, on the solid portion or bed *g* of the draw-head, which is more than broad enough both to support it and also its fellow coupling-hook *h* of the draw-head of another car, the catches *f f* of the respective couplers of the two draw-heads dropping each into its own cavity *e*, which cavity inclines somewhat forward and downward, to adapt it to the character of the hook, and to insure a good hold. Between the two cavities *d* and *e* is a short raised part or partition, *i*, the front end of which is rounded or beveled off, as shown at *j*, the bevel being at one side only, the object of the bevel being to insure the guiding or deflecting of the coupling-hook of the draw-head of another car away from the other hook, and into its own cavity or eye.

The center of the bed *g* is provided with a bolt-hole, *k*, adapted for the ordinary bolt k^2 and link k^3 of the common draw-heads, and beneath the same bed *g* is a recess, *g'*, suitable for the reception of an ordinary coupling-link, these features rendering the draw-head capable of being used as and with the draw-heads now in very general use, while not interfering in the least with the automatic coupling-hook above described, nor in the least interfered with by it, inasmuch as these hooks are adapted, as will now be described, to be locked up out of use when the car is to be connected to a car having the common draw-head.

Two linked chains, *l*, are connected with the coupler-hook, and they pass through clasps *m*, provided with guide-rollers *n*, one such clasp being applied, as shown, to the "dead wood," and the others to the end of the car,

near its corners, so as to have the chain accessible to an attendant, either at the sides or at the top of the car, without endangering his life or limb by going between cars.

The clasps at the ends or top of the car are each provided with a gravitating or weighted dog or clutch, *o*, whose function is, in connection with the chain, to hold up the coupling-hook out of operative action when it is not engaged, or to be engaged with, the opposite draw-head. The chain being pulled and the hook thus lifted, the dog nearest the person so lifting is to be thrown against the chain, and the weight of the hook, pulling downward, locks it, and thus the hook is held up.

When it is desired to place the hook again in position to couple, it may be instantly and readily done by pulling upon the hand-ring *p* of either of the chains, which will at once release the hold of the dog, and permit the hook to drop into position.

When my improved draw-head is coupled to an ordinary link and bolt draw-head, it is desirable to have the hook kept in its raised position. To effect this I provide each dog with a pin, *q*, and, by catching a link of either chain to one of such pins, the hook cannot drop until again detached from such pin.

It will be observed that this improved draw-head is very strong, although uniting two kinds of couplers in one, and is of about ordinary size, and that it is easily and cheaply made, and adapted to be applied to any car, and, when applied, to be available for coupling with cars to which it has not been applied.

It will also be observed that the inner face of the catches *f* has no abrupt terminal or other projection to prevent its riding over the edge of cavity *e* when the hook is lifted, and that neither hook engages its catch with the bolt or pin, which serves as the axis and support of the other hook, but that the whole of its tractile force is exerted directly upon the body of the draw-head itself. It will also be noticed that neither hook is dependent on the other; that both draw equally, and if, by any accident, the short pivotal pin or bolt *r* of either hook should get dislodged or broken, it will not tend to disturb the hold of the catch of the other hook.

It will also be observed that I employ no lever, fulcrum-pin, or other device within the draw-head itself, either to lock the coupling-hook down when the cars are coupled, or to hold it up when they are uncoupled, and that the head is therefore not weakened by making any cavity therein to receive such device.

A metal plate, *s*, having an opening sufficient to permit the shank or stock *t* of the draw-head to play freely through it, is firmly secured to the end or dead wood of the car, and it is of a length and breadth about equal to that of the rear wall of the draw-head; and when the draw-head is forced back against its spring (not necessary to be shown) this flat plate receives the impact of the blow or concussion, and not only prevents damage to the wood, but also tends to an equal distribution of the force, and prevents indentation of the wood from the edges of the rear wall *c*.

I claim—

In combination with the gravitating coupling-hook, and its lifting-chains and clasps, the dog or clutch *o* (one or more) applied and operating substantially as described, and for the purpose set forth.

FRANKLIN H. FICKETT.

Witnesses:

JOHN W. REID,

J. C. ROBINSON.