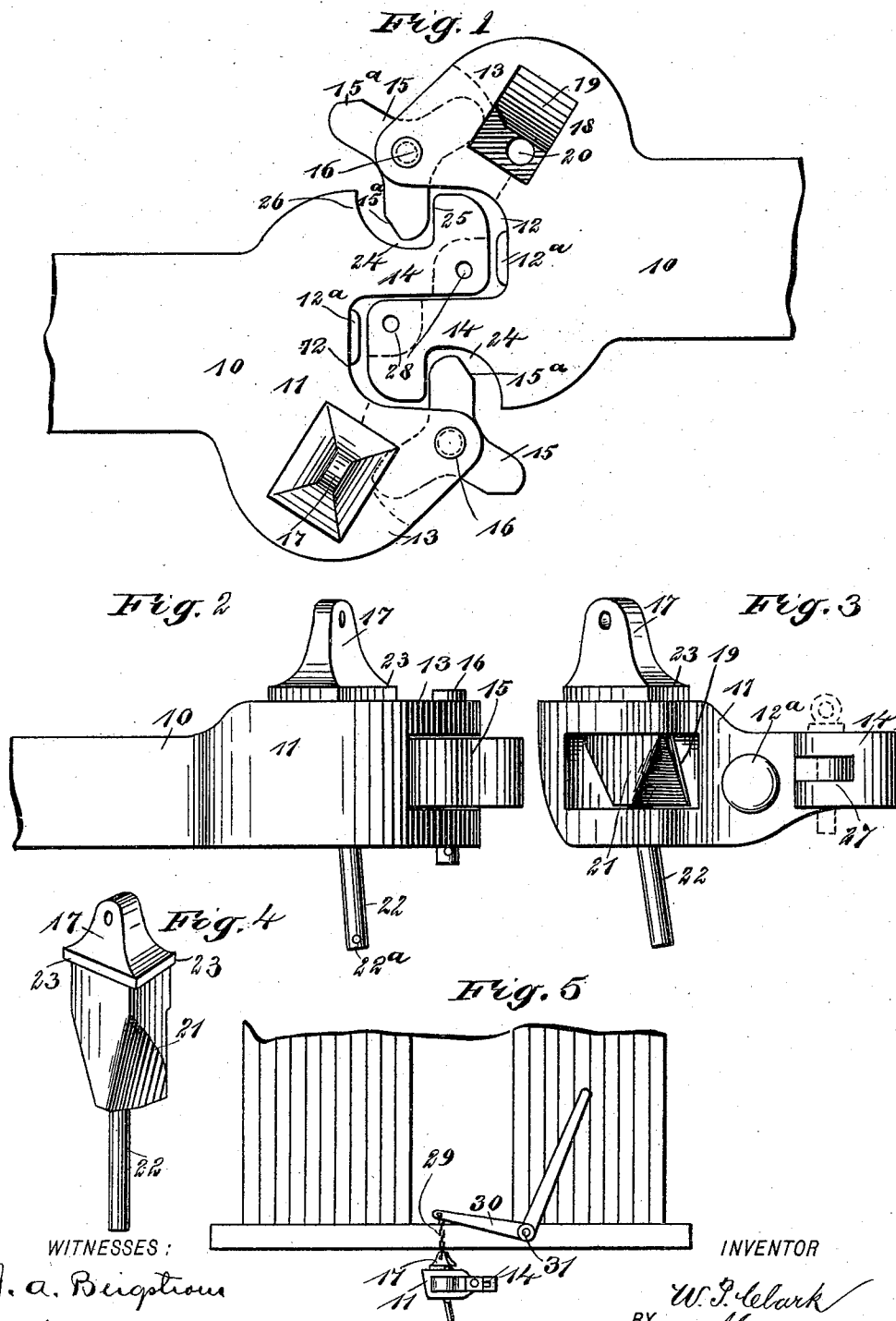


(No Model.)

W. P. CLARK.
CAR COUPLING.

No. 491,835.

Patented Feb. 14, 1893.



UNITED STATES PATENT OFFICE.

WILLIAM P. CLARK, OF ELBERTON, GEORGIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 491,835, dated February 14, 1893.

Application filed May 10, 1892. Serial No. 432,406. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. CLARK, of Elberton, in the county of Elbert and State of Georgia, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of automatic car couplings known as the "Janney" type of couplings which employ revolving knuckles, these being used to interlock with some part of an opposing coupling. As heretofore constructed, the revolving knuckles of this class of couplings have interlocked with knuckles of an opposing coupling, so that when either of the knuckles was broken, the coupling would separate.

The object of this invention is to produce a car coupling having forwardly extending arms, one of which carries a revolving knuckle, and the other of which has an outside hook adapted to engage the knuckle of an opposing coupling. This construction enables the two knuckles of the two couplings to act independently and to engage independent arms or hooks, so that when one knuckle breaks the other will still hold the cars together.

A further object of my invention is to construct the coupling so that the knuckle will be carried on one side, to prevent it from being broken through contact with a knuckle of a different kind, to provide means for securing the coupling to another coupling having a knuckle, as well as to one having the old-fashioned link and pin, to arrange a cushion on the coupling so that it will receive the thrust of an opposing coupling and take up the resulting shock, and in general to produce a cheap and simple coupling adapted to withstand the ordinary wear and tear of practical use.

To this end my invention consists in a coupling, the construction of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of two locked couplings embodying my invention; Fig. 2 is a side elevation of one of the couplings; Fig. 3 is a front view of the same; Fig. 4 is a detail perspective view of the locking pin; and

Fig. 5 is a front end view showing the application of the coupling to a car.

The coupling is provided with a draw bar 10, of the usual kind adapted to be supported in any convenient way beneath the car, and this terminates at its front end in a head 11, which has a central vertical recess 12 in its front end thus forming two essentially parallel arms 13 and 14. The arm 13 is horizontally recessed at its front end and a three-armed knuckle 15, is pivoted on a vertical pin 16, so as to revolve horizontally in this recess and have its arms project successively into the recess 12. The arms of the knuckle are preferably flattened on one corner, as shown at 15^a, so that they may come into firm contact with the locking pin, as described below. The locking pin 17, is adapted to be dropped into the path of the knuckle 15 so as to serve as a detent and prevent the knuckle from turning, and the locking pin fits snugly in a recess 18, produced in the head 11, the recess having beveled or inclined walls 19, and a pin hole 20, opening from its bottom portion through the under side of the head 11. The locking pin 17 has an enlarged portion 21, which is of an essentially rectangular cross-section and has inclined sides shaped to fit the walls of the recess 18. The locking pin 17 has a lower terminal cylindrical portion 22, which is adapted to project downward through the hole 20, and this part of the locking pin is perforated at its lower end, as shown at 22^a, so that a limiting pin may be inserted in the perforation to prevent the locking pin from being lifted entirely clear of the coupling. The locking pin has at the top an overhanging flange 23, which closes the top edges of the recess 18 and prevents any snow, ice, or other obstruction from passing into the recess. The arm 14 of the coupling is adapted to enter the recess 12 of an opposing coupling, and it has on its outer side a recess 24, which forms a hook 25 at its front end and a boss 26 at its rear end. The hook 25 is adapted to engage one of the arms of the knuckle 15 and prevent its removal, and the boss 26 is adapted to strike at the front side of the said knuckle arm and push the knuckle to place. On the back wall of the recess 12 is a cushion 12^a, against which the arm 14 of an opposing coupling strikes. The front end of

the arm 14 is recessed horizontally, as shown at 27, so as to receive the old-fashioned link, and this end of the arm is pierced by a vertical hole 28, adapted to receive a common coupling pin, as shown by dotted lines in Fig. 3. The pin 17 of the coupling connects by a chain 29, with one end of a lever 30, which is fulcrumed on the car, as shown at 31, in Fig. 5, and any kind of a lever may be used and operated from either the front or sides of the car, or from the platform of a passenger car, so that by means of the lever one may uncouple the cars without passing between them.

The operation of the coupling is as follows:—

15 The locking pins 17 of the couplings are raised and the lower portion of the enlarged part 21 of the pins is allowed to rest slightly upon the heads 11 at the edges of the recesses 18. When the couplings come together the arm 14 of one enters the recess 12 of the other, striking as it does so one of the arms of the coupling knuckle 15. As the arm passes inward the hook 25 moves by the arm of the coupling knuckle, the boss 26 jams the knuckle to place, and the end of the arm 14 strikes the cushion 12^a with sufficient force to shake down the coupling pin 17, which drops into the path of one of the arms of the knuckle 15, and the knuckle is thus locked and the couplings are fastened together. It will be seen that each arm 14 is engaged by the knuckle 15, and a double lock is thus formed which will prevent any accidental uncoupling of the cars. The hook 25 of the coupling is adapted to engage any of the usual forms of knuckle, and as the coupling may be also coupled to the old-fashioned link

and pin coupling, the device is well adapted to ordinary use.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:—

1. A car coupling, comprising a draw head having a pair of forwardly extending arms arranged on its opposite sides, a revoluble knuckle journaled in the front end of one of the arms, a hook formed on the outer side of the opposite arm, and a locking pin held to fit in a recess of the head of the draw head and in the path of the revoluble knuckle, substantially as described.

2. A car coupling, comprising a draw head having forwardly extending arms, a cushion arranged in the crotch of the arms, a revoluble knuckle held to turn horizontally in one of the arms, a vertical recess produced in the draw head adjacent to the knuckle and having inclined walls, a locking pin shaped to fit the recess, and a hook produced on the outer side of the arm opposite the coupling arm, substantially as described.

3. In a car-coupling, the combination with a draw head having a revoluble knuckle therein and a vertical recess having beveled walls and a pin hole extending through its bottom, a recess being produced adjacent to the knuckle, of a locking pin shaped to fit the recess, the pin having an elongated or lower portion to enter the pin hole, and an overhanging top flange, substantially as described.

WILLIAM P. CLARK.

Witnesses:

JOHN P. SHANNIN,
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