J. KELSO.

CAR COUPLING.

APPLICATION FILED JAN. 29, 1913.

1,067,925. Patented July 22, 1913.

Fig. 1.

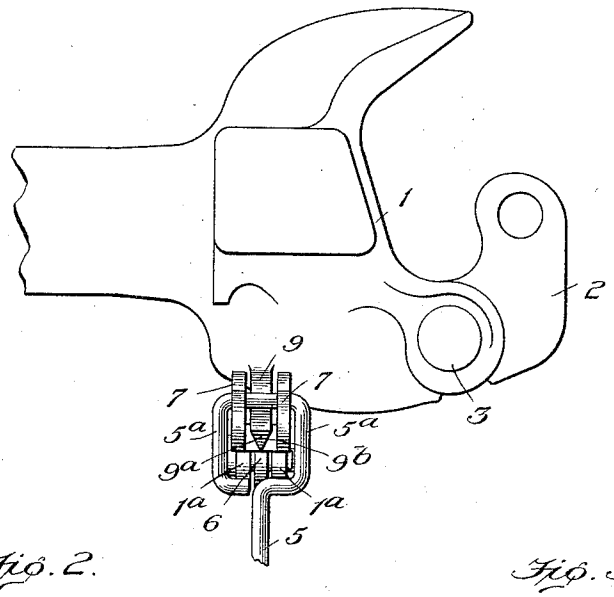


Fig. 2.

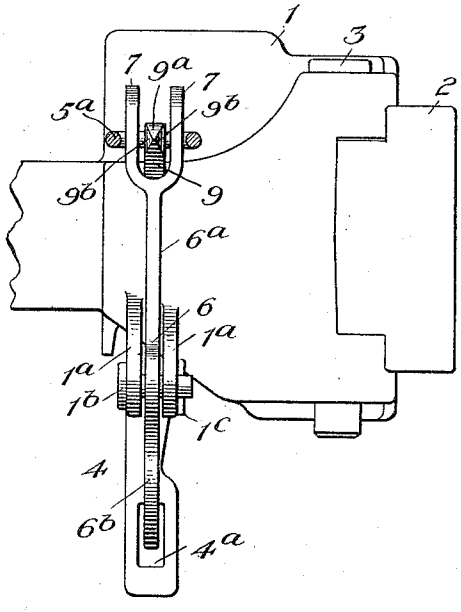
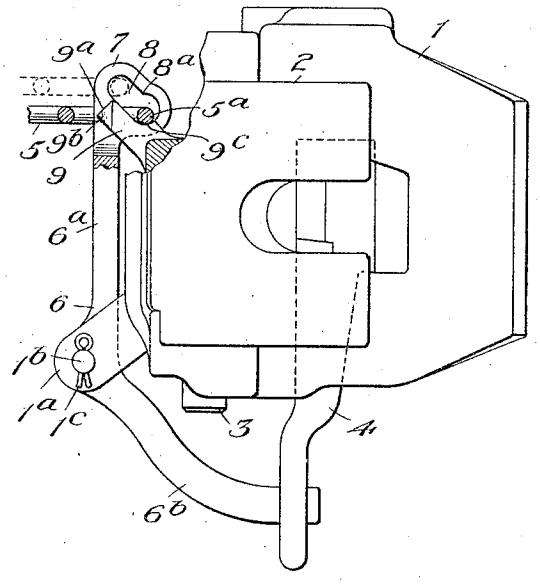


Fig. 3.



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CAR-COUPLING.

1,067,925. Specification of Letters Patent. **Patented July 22, 1913.**

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To all whom it may concern:

Be it known that I, JOSEPH KELSO, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplers; 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 appertains to make and use the same.

My invention relates to the construction of car couplers of the twin jaw M. C. B. type, and especially to that class wherein a gravity lock is actuated from an uncoupling member by means of an intermediary lever mounted on the coupler-head, and has for its main object the production of a simple and efficient connection between the uncoupling member and the intermediary lever whereby the uncoupling member acts as a lock to the intermediary lever, which latter, in turn, acts as a lock to the coupler lock to prevent any accidental unlocking movement of the latter.

To this end the main feature of my invention embraces the combination with a coupler-head its pivoted knuckle and gravity lock, of an uncoupling member, and an intermediary lever mounted on the coupler-head, said intermediary lever having an inclined slot for the reception of a portion of the uncoupling member, and an inclined locking lug on the coupler-head for guiding the uncoupling member; whereby the uncoupling member acts as a lock to prevent any independent movement of said intermediary lever.

There are other, minor, features of invention involving elemental features of construction and particular combinations, all as will hereinafter more fully appear.

In the drawings chosen for the purpose of illustrating my invention, the scope whereof is pointed out in the claims, Figure 1 is a plan view of a car coupler embodying my invention; Fig. 2 is a side elevation of the coupler and mechanism shown in Fig. 1, and Fig. 3 is a front elevation of the coupler and the mechanism shown in Figs. 1 and 2, the relative position of the parts being that assumed when the coupler is locked, a portion of the uncoupling member being also shown in dotted line in the position it assumes when the intermediary lever is unlocked.

Like symbols refer to like parts wherever they occur.

I will now proceed to describe my invention more fully so that others skilled in the art to which it appertains may apply the same.

In the drawings, 1 indicates a coupler-head, 2 the knuckle pivotally mounted on the head by means of the knuckle pin 3, and 4 indicates a vertically movable gravity lock which controls the rotation of the pivoted knuckle or jaw 2.

To the rear of the pivot pin of the knuckle 2 and projecting outwardly and downwardly from the side of the coupler head 1, are a couple of lugs 1^a, 1^a perforated for the reception of a pivot bolt 1^b.

5 indicates the uncoupling member, which is preferably a rod horizontally and slidably disposed with relation to the car with which the coupler is used.

6 indicates an intermediary lever mounted on the coupler head 1, by means of which the gravity lock 4 may be actuated from the uncoupling member 5. This intermediary lever 6 is preferably a bent lever pivoted on the lugs 1^a, 1^a of the head 1 by means of the pivot bolt 1^b, and said bolt may be slotted at its end and secured by a split or spring key 1^c. The vertical arm 6^a of the intermediary lever 6 is preferably forked as at 7 to include a locking lug on the coupler head 1, and the members or branches constituting the fork are each provided with an inclined slot 8 to receive a portion 5^a of the uncoupling member 5. Said slots 8 are preferably wider at their lower inner ends to form inwardly projecting points or projections 8^a for a purpose which will hereinafter appear.

Projecting upwardly and outwardly from the same side of the coupler-head 1 as the lugs 1^a, 1^a on which the intermediary lever 6 is pivoted, is an inclined locking lug 9 so located with relation to the upper arm 6^a of the lever 6 as to enter between the branches of the fork 7 thereof when the parts are in the locked position. This lug 9 is preferably beveled laterally and also on its top as at 9^a, 9^b to serve as a guide not only for the upper arm of the intermediary lever 6 but also as a guide for the end

5ª of the uncoupling member 5, to thus insure the co-active relation of said parts which might otherwise be rendered uncertain by reason of lost motion or slack between the parts. The upper face of the lug 9 is inclined downwardly and inwardly toward the coupler-head 1 so that the portion 5ª of the uncoupling member 5 which interlocks with the upper end of the intermediary lever 6 will by its weight gravitate toward the coupler head and thus prevent any accidental outward movement of said arm 6ª of the lever 6 which would tend to actuate the gravity lock 4.

It will be noted that at the bottom of the upper inclined face of the lug 9 there is a curved seat 9ᶜ for the reception of the portion 5ª of the uncoupling member 5 which engages in the slots 8 of the intermediary lever 6; and it will also be noted that when the coacting parts are in the locked position shown in full lines Fig. 3, the slots 8 are of such length as to extend above and beyond the outer end of the lug 9 so that when the uncoupling member 5 is moved to actuate the intermediary lever 6, the part 5ª of the uncoupling member 5 may ride up the incline to a point above lug 9, and thus allow an extended lateral movement of arm 6ª of the intermediary lever 6.

The lower arm 6ᵇ of the intermediary lever, or bent lever, 6 extends downward and inward from the pivot bolt 1ᵇ to such a position with relation to the lower part of the gravity lock 4 as will cause said arm 6ᵇ to engage and lift the gravity lock 4, when the upper or vertical arm 6ª of the intermediary lever 6 is moved outward laterally from the coupler head 1. If desired the lower end of the gravity lock 4 may be provided with a slot 4ª for the reception of the arm 6ᵇ of the intermediary lever 6.

That portion of the uncoupling member 5 which engages the arm 6ᵇ of the intermediary lever 6 is preferably in the form of a hook or loop 5ª passing through the slots 8 in the branches of the fork 7 and, when the parts are in a locked position, it embraces the inclined locking lug 9 which projects upward and outward from the coupler head 1.

The construction and relation of the coacting elements being substantially such as hereinbefore pointed out, and said parts being in the position shown in full lines in the drawings, which is the locked position, their operation will be as follows: The inclined locking lug 9 on the coupler head 1 stands in front of the part 5ª of the uncoupling member 5 which is in the inclined slots 8 of the upper arm 6ª of the intermediary lever 6, and thus prevents the outward or unlocking movement of the arm 6ª of the lever 6 until such time as the said part 5ª shall rise in the slots 8 to a point above the top of the locking lug 9. This rise of the part 5ª of the uncoupling member cannot occur by reason of any independent movement of the intermediary lever 6. because of the presence of locking lug 9 and further, because of the relation of the portion 5ª of the uncoupling lever 5 and the locking lug 9 the intermediary lever 6 can have no independent movement, and as the intermediary lever 6 controls the movement of the lock 4 said lock can have no independent or accidental unlocking movement. When, however, the uncoupling member 5 is actuated, its first movement is to cause the part 5ª thereof to pass up the inclined lug 9 or rise in the slots 8 of the intermediary lever 6 until it is above the projections 8ª of the slots 8, and also above the upper end of the inclined locking lug 9, after which the further movement of the uncoupling member is communicated to the intermediary lever 6 and the same having been released by the upward movement of part 5ª can be rotated to move the coupler lock 4 into unlocked position. On the release of the uncoupling member 5 the lock 4 immediately gravitates into the locked position. When knuckle 2 is closed the weight of lock 4 actuates lever 6; lever 6 actuates rod 5 and carries it to its place at 9ᵉ.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a car coupler, the combination with a coupler head, a pivoted knuckle, and a vertically movable lock, of an uncoupling member, a lever mounted on the coupler head and having an inclined slot for the reception of the uncoupling member, and an inclined locking means on the coupler head with which the uncoupling member engages.

2. In a car coupler, the combination with a coupler head, a pivoted knuckle and a vertically movable lock, of an uncoupling member, a lever mounted on the coupler head and having an inclined slot in the end of the lever with which the uncoupling member engages, said slot having a projection on its wall intermediate of its length, and an inclined locking means on the coupler head with which the uncoupling member engages.

3. In a car coupler, the combination with a coupler head and pivoted knuckle, of a vertically movable lock, an uncoupling member having a loop for engaging a lever mounted on the coupler head, a lever mounted on the coupler head and having an inclined slot in the end with which the uncoupling member engages, and an inclined locking means on the coupler head with which the uncoupling member engages.

4. In a car coupler, the combination with a coupler head and pivoted knuckle, of a vertically movable lock, an uncoupling member, a lever mounted on the coupler head,

the portion of said lever which engages the uncoupling member being forked and provided with inclined slots for the reception of the uncoupling member, and an inclined locking means on the coupler head with which the uncoupling member engages.

5. In a car coupler, the combination with a coupler head and pivoted knuckle, of a vertically movable lock, an uncoupling member, a lever mounted on the coupler head, the end of said lever which engages the uncoupling member being forked and provided with inclined slots for the reception of the uncoupling member, and inclined locking means on the coupler head the outer end of said locking means being beveled to insure the alinement of the locking means and lever.

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

JOSEPH KELSO.

Witnesses:
A. BANEY,
F. D. ECKER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."