

(No Model.)

J. M. HARRISON.
CAR COUPLING.

No. 538,645.

Patented Apr. 30, 1895.

Fig. I.

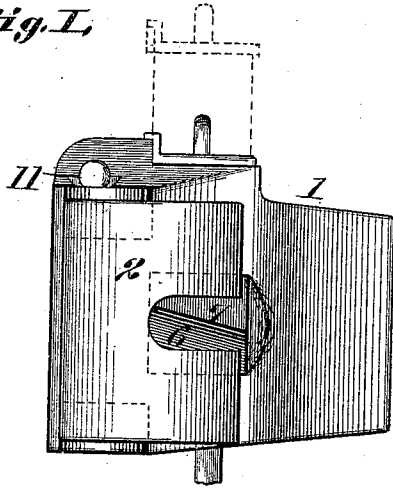


Fig. II.

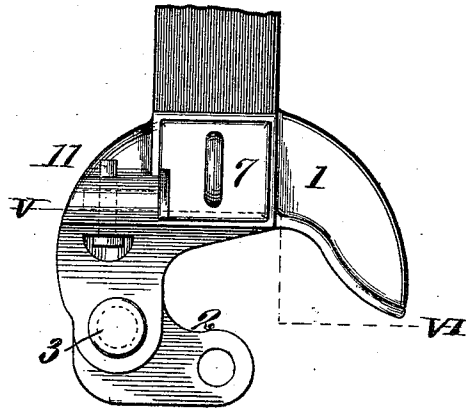


Fig. III.

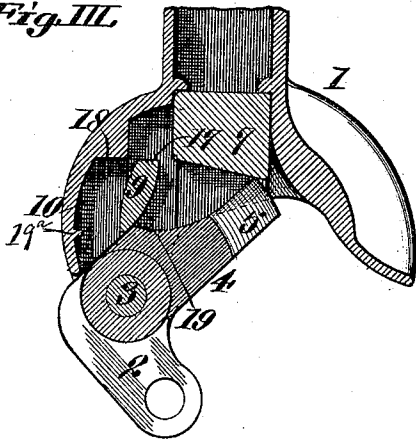


Fig. IV.

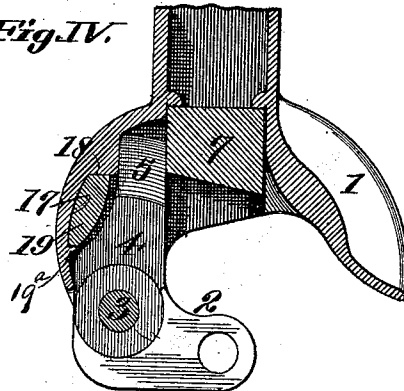


Fig. V.

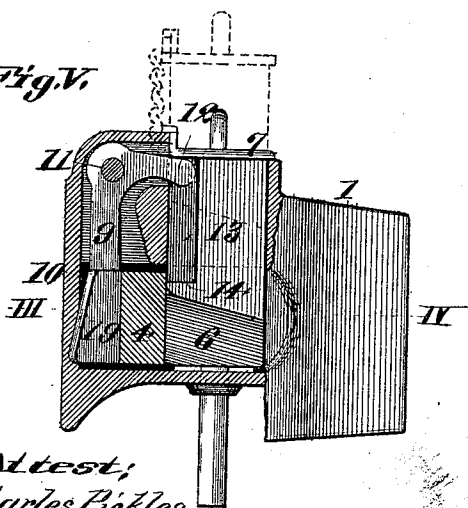
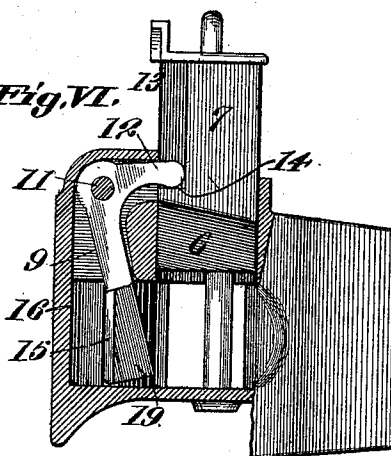


Fig. VI.



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UNITED STATES PATENT OFFICE.

JOHN M. HARRISON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE SHICKLE,
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 538,645, dated April 30, 1895.

Application filed January 28, 1895. Serial No. 536,427. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. HARRISON, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to what is known as the "knuckle" or "Janney" type. It has become necessary to provide this class of couplers with some means whereby the knuckles may be unlocked and opened without the necessity of the trainmen going in between the cars to do this. The object of my invention is to accomplish this result in a cheap, effective, and durable manner, and my arrangement or apparatus effects this result in an automatic manner when the lock block is raised. It has been the custom to lift this lock block without going in between the cars, and an ordinary way of doing it, is to have a rock shaft or lever connected to the car body and to the block, so that when the lever is oscillated or the shaft rocked the block will be raised. I have invented and arranged an apparatus whereby the knuckle is automatically opened when and by virtue of the raising of the locking block.

My invention consists in features of novelty hereinafter fully described and pointed out in the claims.

Figure I is an end view of a draw-bar embodying my invention and showing the knuckle in its closed position. Fig. II is a top view of same. Figs. III and IV are detail horizontal sections taken on line III IV, Fig. V, Fig. III showing the knuckle open and the lock-block in position, while Fig. IV shows the knuckle closed. Figs. V and VI are vertical sections taken on line V VI, Fig. II, Fig. V showing the knuckle closed and the locking-block in its lower or using position and Fig. VI showing the locking-block raised, and in this figure the knuckle is removed.

Referring to the drawings, 1 represents the draw head and 2 the knuckle. The knuckle is pivoted to the draw head at 3, and its inner arm 4 has an incline 5 adapted to engage an incline 6 on the locking block 7, so that as the knuckle is closed, the locking block is au-

tomatically raised by the inclined surfaces 5 and 6 coming together, and when the knuckle is closed, the locking block falls and holds the knuckle in its closed position. A more detailed description of these parts is unnecessary for the reason that they form no part of my invention *per se*, and for the reason that they are fully described in Letters Patent No. 512,692, issued January 16, 1894, to Thomas Gallagher, and in the application of said Gallagher, filed September 13, 1894, Serial No. 522,920.

My invention, as stated, relates to a means for opening the knuckle when the locking block is raised, and this is by preference effected by and in the act of raising the block. It is done through means of a lever 9, located in a cavity 10 in the draw head, and is pivoted at 11 to the draw head. The upper end of the lever 9 has a projection 12 which is engaged by the block 7 when the block is raised as shown in Fig. VI. The block has a groove or cutaway portion 13 to receive the projection 12, and the length of this groove 13 is such that just before the block reaches the limit of its upward movement, the lower end 14 of the groove comes against the projection 12, and throws the lower end 15 of the lever 9 forwardly toward the throat of the draw head, and as this end 15 of the lever bears against the back of the arm 4 of the knuckle, the knuckle will be thrown open by this movement of the lever. When the block has thus been raised and the lever operated the block may be allowed to drop to its lower position, and the lever will swing back to its normal position against the wall 16 of the cavity 10, the knuckle remaining in its open position, so that when the draw heads come together again, they will be automatically coupled.

It will be seen that I have formed the lever with a wing or a wide lower end, and the reason for this is to get a bearing between the lever and knuckle close to the pivot of the latter, so that notwithstanding the movement of the lever is slight, yet the knuckle will be thrown wide open by the lever. The lever will open the knuckle without this wing, but it is preferred to use the wing so that the lever will throw the knuckle wide open.

The inner edge 17 of the lower end of the

lever 9 is adapted to bear against a shoulder 18 in the cavity 10, so that when the lever is in its normal position and the draw head is used with an ordinary coupling link, the lever is braced and protected from being broken or bent in being struck by the link, and to prevent the link from coming against and having its movement into the throat of the draw head impeded by this lever, I bevel off the outer face of the lower end of the lever as shown at 19, so that should the link strike the lever, it will be warded off and directed into the throat of the draw head. As a further protection against a link striking the lever, the draw head may be cast with a ledge 19^a in front of the lever. See Fig. IV.

While I have shown and described and prefer to operate the lever 9 by means of the locking block 7, still I do not wish to be limited to this, as my invention might be carried out to a certain extent by connecting a chain to the projection 12 of the lever, and making this chain fast to a pivoted lever or rock shaft secured to the car body, so that the lever can be operated in the same manner as the locking block, and by making the chain of the proper length so as to move the lever at the proper time relatively to the locking block, this chain may be connected to the rock shaft or lever that moves the locking block. I have shown such a chain for the lever in dotted lines in Fig. V.

I claim as my invention—

1. In a car coupler, the combination of the draw-head having a locking-block provided

with a groove 13, a knuckle pivoted to the draw-head and adapted to be held in closed position by the locking-block, and a bell crank lever pivoted to the draw-head, having the outer end of its upper arm projecting into the groove of the locking-block, and its lower arm adapted to engage the knuckle; substantially as described.

2. In a car-coupler, the combination of the draw head having a locking-block, a knuckle pivoted to the draw head and adapted to be held in closed position by the locking-block, and a bell crank lever pivoted to the draw-head back away from the pivot of the knuckle having its arms in, or approximately in the same plane, and its lower arm provided with a wing at its lower end; substantially as described.

3. In a car coupler, the combination of a draw head having a locking block, a knuckle pivoted to the draw head and adapted to be held in closed position by the locking block, a lever pivoted in the draw head and the lower end of which is adapted to engage the inner arm of the knuckle, and a projection on said lever adapted to be engaged by said locking block; the lower end of said lever being tapered as shown at 19, and being adapted to fit against a shoulder 18, substantially as and for the purpose set forth.

JNO. M. HARRISON.

In presence of—

GEO. H. KIGHT,
STANLEY STONER.