

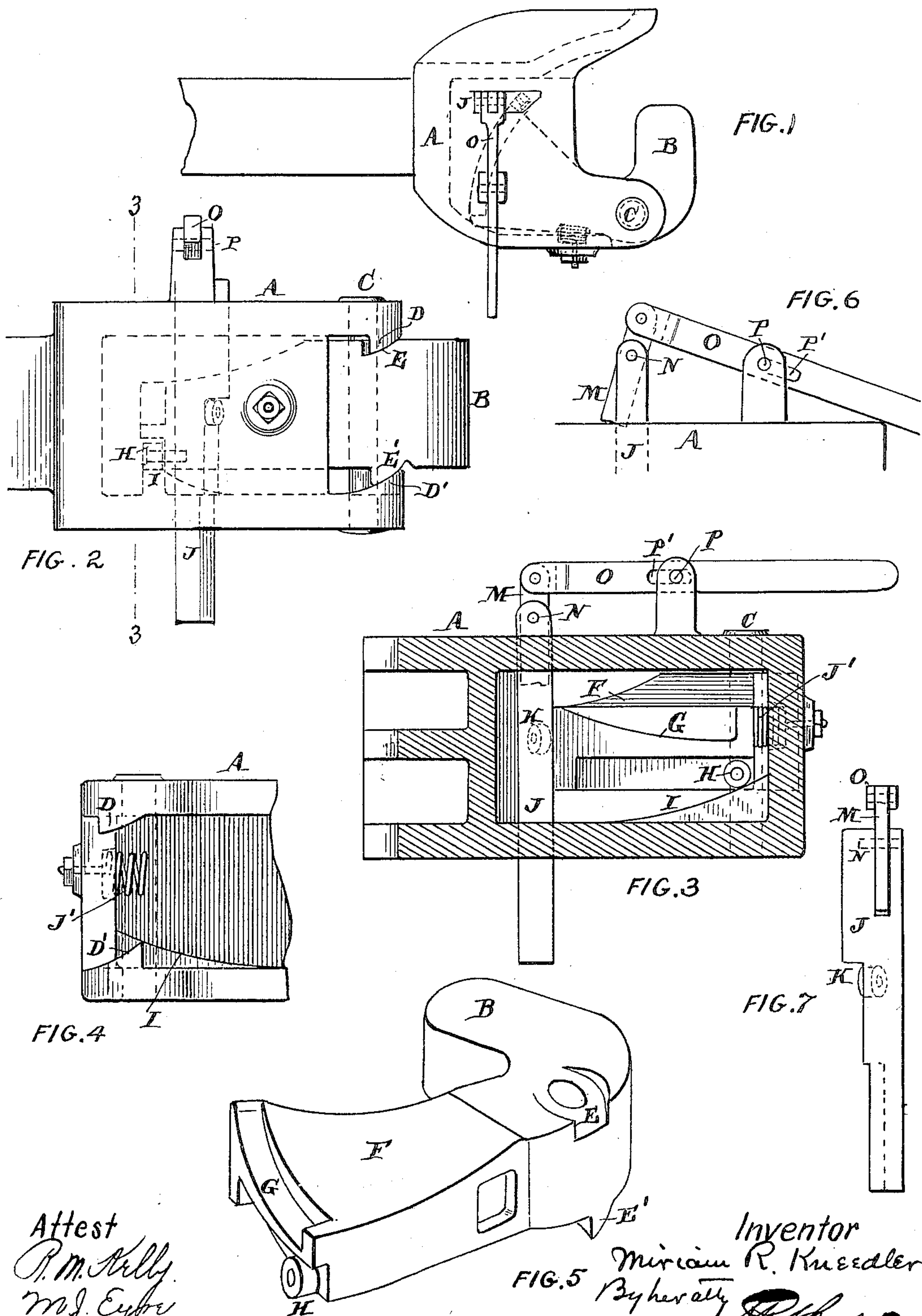
No. 822,526.

PATENTED JUNE 5, 1906.

M. R. KNEEDLER.

CAR COUPLING.

APPLICATION FILED MAR. 20, 1905.



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# UNITED STATES PATENT OFFICE.

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## CAR-COUPLING.

No. 822,526.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed March 20, 1905. Serial No. 250,946.

*To all whom it may concern:*

Be it known that I, MIRIAM R. KNEEDLER, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in Car-Couplers, of which the following is a specification.

My invention has reference to car-couplers; and it consists of certain improvements which are fully set forth in the following specification, and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to provide a construction of car-coupler which shall have capacity for automatically opening its jaw when released, whereby it shall be capable of automatically operating either in coupling two cars or in disengaging when shifting cars after the engine and train has given the necessary impetus to the car to be disengaged and shifted.

My improved coupler consists of the draw-head combined with a pivoted jaw, locking and unlocking devices for the jaw, and means for automatically turning the jaw to open position when the same is unlocked.

My invention also comprehends details of construction which, together with the features specified above, will be better understood by reference to the drawings, in which—  
Figure 1 is a plan view of a coupler embodying my invention. Fig. 2 is a side elevation of same. Fig. 3 is a sectional elevation on line 3 3 of Fig. 1. Fig. 4 is a front elevation of a portion of the head. Fig. 5 is a perspective view of the pivoted jaw. Fig. 6 is an elevation showing the means for operating the locking-bolt, and Fig. 7 is an elevation of the locking-bolt.

A is the draw-head and may be shaped as usual except so far as my improvements are concerned. Adjacent to the pivot or hinge pin for the jaw B, I provide a cam-track D' at the bottom and a cam projection D at the top extending downward, as shown in Figs. 2 and 4. The interior of the head has its floor at the rear provided with an inclined guide I, the purpose of which will be explained later on.

The pivoted jaw B is hinged upon the pin C and adapted to swing around in the usual manner for coupling or uncoupling. This jaw adjacent to its pivot is formed on the top with a cam-recess E and on the bottom with a cam projection E'. These parts E E' cooperate with the cam projection D and cam-track D' on the head in such a manner that if the jaw is left to itself it will be caused to

rotate from a closed to an open position automatically. To do this, the jaw is made somewhat less in vertical thickness than the space between the top and bottom walls of the head, so that it may shift downward by gravity and by its own weight propel or rotate itself about its axis C. This action may be facilitated by a spring J', fixed in the side wall of the head and so acting upon the rear end F of the jaw B as to start it on its rotation when released. This spring may be applied in any other manner desired to assist the jaw in its first movement. Such use of a spring will be found effective, especially in case of the parts becoming clogged by rust.

As a further means for causing the jaw B to rotate to open position I provide its rear end F with a roller H, which runs upon the inclined guide I on the floor of the head A. These several means will cause the jaw to rotate without binding upon the hinge-pin C.

It is evident that either the cam-guide I may be used without the parts E E' D D', or vice versa, the purposes of my invention being fulfilled by any cam devices which by gravity cause the jaw to rotate to open position.

J is the locking-bolt, adapted to slide vertically in the head A. When it is lowered to the position shown in Fig. 3, it locks the rear end F of the jaw and prevents the said jaw from rotating outward. It is then in coupling position. When the bolt is raised, the jaw B swings around to open position. If the bolt be then lowered, a roller K, journaled on the side of the bolt, runs upon the trackway G in the rear end F of the jaw B, and thereby supports the bolt. If now the jaw be thrown to a closed position by the ordinary act of bringing two cars together, the roller K will ride upward on the trackway G upon which it is resting and ultimately pass over the end thereof, allowing the bolt to fall and lock the jaw in coupled position. In this way the cars may be automatically coupled.

In cases where the cars are to be shifted by momentum it is necessary to hold the locking-bolt in a raised position, so that it cannot lock the jaw. To accomplish this, I form the bolt J with a slotted upper end at L, in which is hinged at N a pawl M. The upper end of this pawl is hinged to a lever O, which is pivoted upon a pin P, which passes through an elongated hole P'. Ordinarily the lever O may raise or lower the bolt with-



out latching it in elevated position. To latch the bolt in its raised position, the lever O is pulled longitudinally when operated, so as to rock the pawl M and make its lower edge move laterally to catch over the upper edge of the slot in the head A, forming the guide for the locking-bolt, as shown in Fig. 6. In this manner the bolt may be lifted by hand to liberate the jaw and allow it to swing around into open position, and if said bolt is latched in its raised position the jaw cannot be locked, and hence is in proper condition for shifting the car by its own momentum and in which the coupling must automatically attach itself from the next car or engine, which starts it into motion.

Any other suitable locking bolt and latch may be used in lieu of that shown, and in many respects the details of construction may be varied or modified without departing from the spirit of the invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupler, the combination of the draw-head, with a gravity-actuated pivoted jaw adapted to swing to the open position when released, a locking-bolt to lock the jaw normally resting upon the rear end of the jaw and controlled by it, and hand-operated means arranged above the draw-head to hold the locking-bolt out of locking position consisting of a pivoted part carried by the bolt and a hand-lever to move said pivoted part.
2. In a car-coupler, the combination of the draw-head having a pivot-pin bearing to one side of the front of the head, a cam adjacent to the pivot-pin bearing and a cam upon the rear and lower part of the head, with a pivot-pin, a jaw hinged upon and snugly fitting the pivot-pin and also provided with a cam-surface adjacent to the pivot-pin to coöperate with one of the cams of the draw-head and further provided with a rear extension having a part resting upon the other cam of the draw-head, and a lock for locking the jaw in its closed position.

3. In a car-coupler the combination of the draw-head, with a gravity-actuated pivoted jaw adapted to swing to the open position

when released, and a lock to lock the jaw in its closed position, consisting of a vertical bolt J, a pivoted and longitudinally-adjustable lever O, and a latch M hinged to the bolt and also to the lever whereby the lever may operate both the bolt and latch.

4. In a car-coupler, the combination of the draw-head having a pivot-pin bearing to one side of the front of the head, a cam adjacent to the pivot-pin bearing and a cam upon the rear and lower part of the head, with a pivot-pin, a jaw hinged upon and snugly fitting the pivot-pin and also provided with a cam-surface adjacent to the pivot-pin to coöperate with one of the cams of the draw-head and further provided with a rear extension having a roller resting upon the other end of the draw-head, and a lock for locking the jaw in its closed position.

5. In a car-coupler, the combination of the draw-head having cam-guides D and I, with a jaw pivoted to the head with capacity for movement and having a cam-face E' and roller H respectively supported upon the cam-guides whereby it is caused to rotate to open position when unrestrained, a locking-bolt adapted to lock the jaw in closed position, and means to hold the bolt out of locking position.

6. A car-coupler draw-head having a cam-guide I greatly to the rear of the pivot of the jaw, combined with a pivoted jaw B having a rear part F having a roller running upon said cam-guide, whereby the jaw is caused to rotate to open position under the action of gravity.

7. A car-coupler draw-head having cam-guide I, combined with a pivoted jaw B having a rear part F, and a roller H journaled to the rear of the part F and resting upon said cam-guide, whereby the jaw is caused to rotate to open position under the action of gravity.

In testimony of which invention I hereunto set my hand.

MIRIAM R. KNEEDLER.

Witnesses:

IDA V. KNEEDLER,  
R. M. KELLY.