G. C. HARLIN.

CAR COUPLING.

APPLICATION FILED JUNE 28, 1909.

976,361.

Patented Nov. 22, 1910.

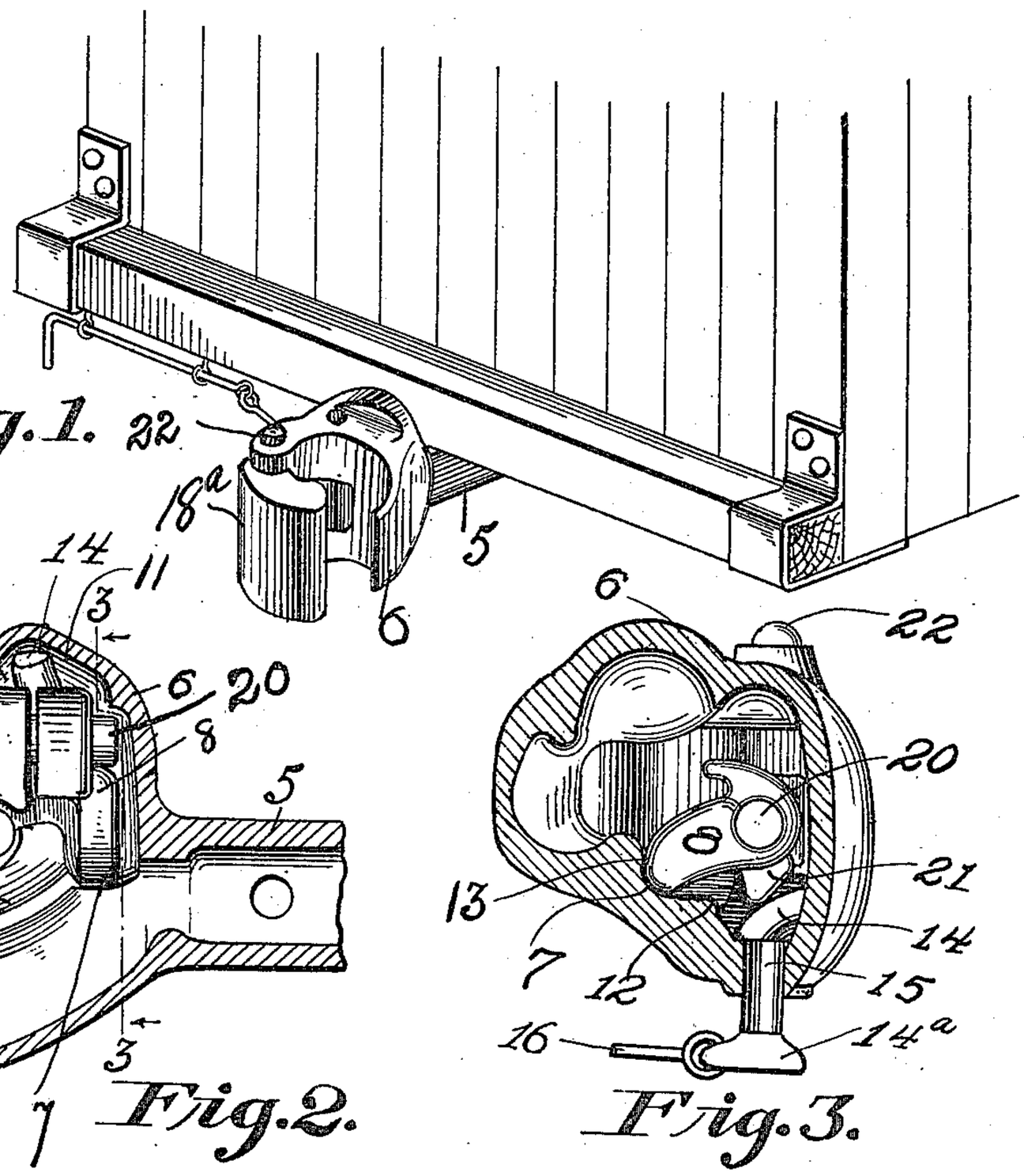

Fig. 1.

Fig. 2.

Fig. 3.

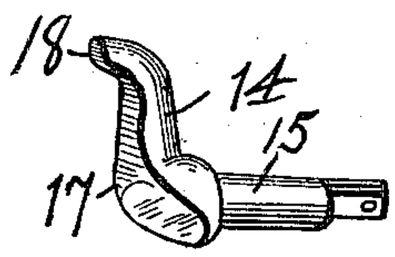

Fig. 4.

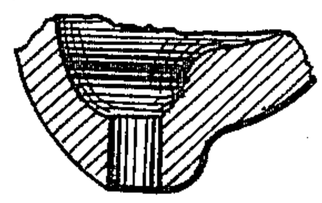

Fig. 5.

WITNESSES

A. E. Barkley.

A. W. Zerbe.

INVENTOR

George C. Harlin,

by Franks & American, Attorney

UNITED STATES PATENT OFFICE.

GEORGE C. HARLIN, OF OTTUMWA, IOWA.

CAR-COUPLING.

976,361. Specification of Letters Patent. Patented Nov. 22, 1910.

Application filed June 28, 1909. Serial No. 504,860.

To all whom it may concern:

Be it known that I, GEORGE C. HARLIN, a citizen of the United States of America, and resident of Ottumwa, in the county of Wapello and State of Iowa, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

This invention relates to railway rolling stock and particularly to a car coupler of the Janney type.

An object of this invention is to provide novel means for locking the coupler knuckles when the knuckle of one coupler is interlocked with the knuckle of another coupler, the said locking means operating automatically by gravity for the purpose of engaging a shoulder on the coupler head whereby, as stated, the parts are locked, means being also provided for disengaging the lock or latch and simultaneously swinging the knuckle on its pivot in such position that it will readily swing free of the interlocking knuckle when the cars are moved apart; that is to say the latch is disengaged from the shoulder and the parts are moved so that the said latch will not again engage the shoulder until the knuckle is swung to interlock with a companion knuckle. Through this mechanism the latch may be set in its interlocked position and the trainman may leave the car with the assurance that the couplers will detach when the cars are separated.

A further object of this invention is to provide a novel latch elevating means and knuckle swinging means formed integral and adapted to operate with one movement of a stub shaft or shank carried by the latch and knuckle operating device of the character noted, the stub shaft of which is provided with a cross arm for the purpose of receiving a rod or other connection leading to the side of a car wherein the said actuating mechanism may be operated without injury to the trainman, the said connections being extended to each side of the car.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, in which—

Figure 1, illustrates a perspective view of the end of a car with the coupler applied thereto; Fig. 2 illustrates a horizontal sectional view of a coupler head and a fragment of a draw-bar with the knuckle and locking mechanism in elevation; Fig. 3, illustrates a sectional view on the line 3—3 of Fig. 2; and Fig. 4 illustrates a perspective view of the latch and knuckle operating member. Fig. 5 is a fragmental section of the bottom wall of the coupler head showing journal for knuckle operating member.

In these drawings 5, denotes a draw bar, 6 a draw head thereon which draw head is of course hollow and is provided in its bottom wall with a shoulder 7, against which the nose of a latch 8 abuts. The bottom wall of the head is also provided with a recess, the wall 9, of which is inclined and forms a cam extending upwardly and forwardly from the side wall 11, to the point 12, the said wall from the point 12 to the shoulder 13, being approximately straight.

The latch operating arm 14, has a shank or stub shaft 15, extending through the bottom wall of the coupler head and said stub shaft is provided with a cross arm 14^a, to which the operating bar 16, is connected, extending to the side of the car, and when said bar is operated the stub shaft is partially rotated. As the stub shaft is rotated, the under side of the arm 14 slides on the cam 9, thereby raising said arm. The arm 14, has its upper surface of irregular contour which forms a cam 17, designed to swing the latch on its pivot and the said arm is further provided with a lug or nose 18, which engages the tail piece of the knuckle and swings the said tail piece and knuckle on its pivotal pin.

The parts just referred to are shown in the drawing and it will be seen that the knuckle is numbered 18^a the tail piece 19, and the pivot or extension of the tail piece 20. On the pivot 20, I swingingly mount the latch which latch has a lug 21, the surface of which is engaged by the cam of the arm for the purpose of swinging the latch on its pivot. From an inspection of the drawing, it will be observed that when the stub shaft of the arm is rotated to force the cam under the lug of the latch, the said latch will be swung to elevate the nose of

said latch out of engagement with the shoulder of the draw head and as the arm moves in the arc of a circle to effect a disengagement of the latch, the end of the said arm contacts the tail piece of the knuckle and imparts motion thereto in order that the said tail piece may be swung to cause the nose of the latch to pass the shoulder of the draw head. In the position just stated, the latch cannot return to engage the shoulder of the draw head until the knuckle is swung in a direction opposite to that just described and the trainman may, therefore, leave the car knowing that when the cars are moved apart the knuckle will swing to its full open position to permit the uncoupling of the cars.

The knuckle is pivoted on a pin 22, which passes through the draw head in the usual way, in fact the draw head and draw bar may be of any appropriate construction.

I claim—

1. In a car coupler, a draw head having a shoulder in its bottom wall and a recess having a wall with a cam surface, a knuckle pivoted in the draw head, a tail piece on the knuckle extending over the recess in the draw head, a latch pivoted at the rear of the tail piece, an arm mounted to swing in the recess, the said arm coacting with the camming wall of the recess and with the latch and tail piece to actuate said latch and tail piece.

2. In a car coupler, a draw head having a recess and a shoulder, the wall of the recess having a camming surface, an arm coacting with the camming surface, a knuckle pivoted in the draw head and having a tail piece, a latch, means for pivoting the latch on the end of the tail piece, a lug on the latch forming a cam engaged by the arm, and means on the arm for engaging the tail piece to move the knuckle.

3. In a car coupler, a draw head having a recess and a shoulder, the wall of the recess having a camming surface, an arm coacting with the camming surface, a knuckle pivoted in the draw head and having a tail piece, a latch, means for pivoting the latch on the end of the tail piece, a lug on the latch forming a cam engaged by the arm, means on the arm for engaging the tail piece to move the knuckle, a stub shaft on the arm, and means for partially rotating the stub shaft.

4. In a car coupler, a draw head having a cam on its bottom wall, a shoulder on said bottom wall, a knuckle pivoted in the draw head and having a tail piece, a latch pivoted on the end of the tail piece and adapted to engage the shoulder, an arm movably mounted in the draw head, a cam on the latch, a cam on the arm adapted to engage the cam on the latch, and means on the end of the arm for engaging the tail piece.

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

G. C. HARLIN.

Witnesses:

ADELIA HOYT,

JULIA MAGEE.