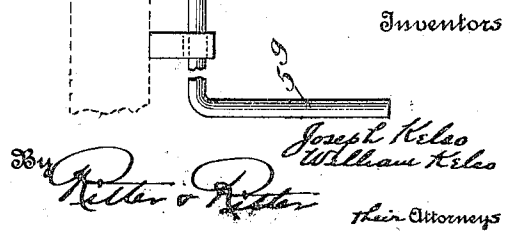
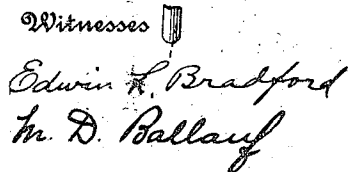


J. & W. KELSO.
UNCOUPLING MECHANISM.
APPLICATION FILED JULY 31, 1911.

3 SHEETS—SHEET 1.

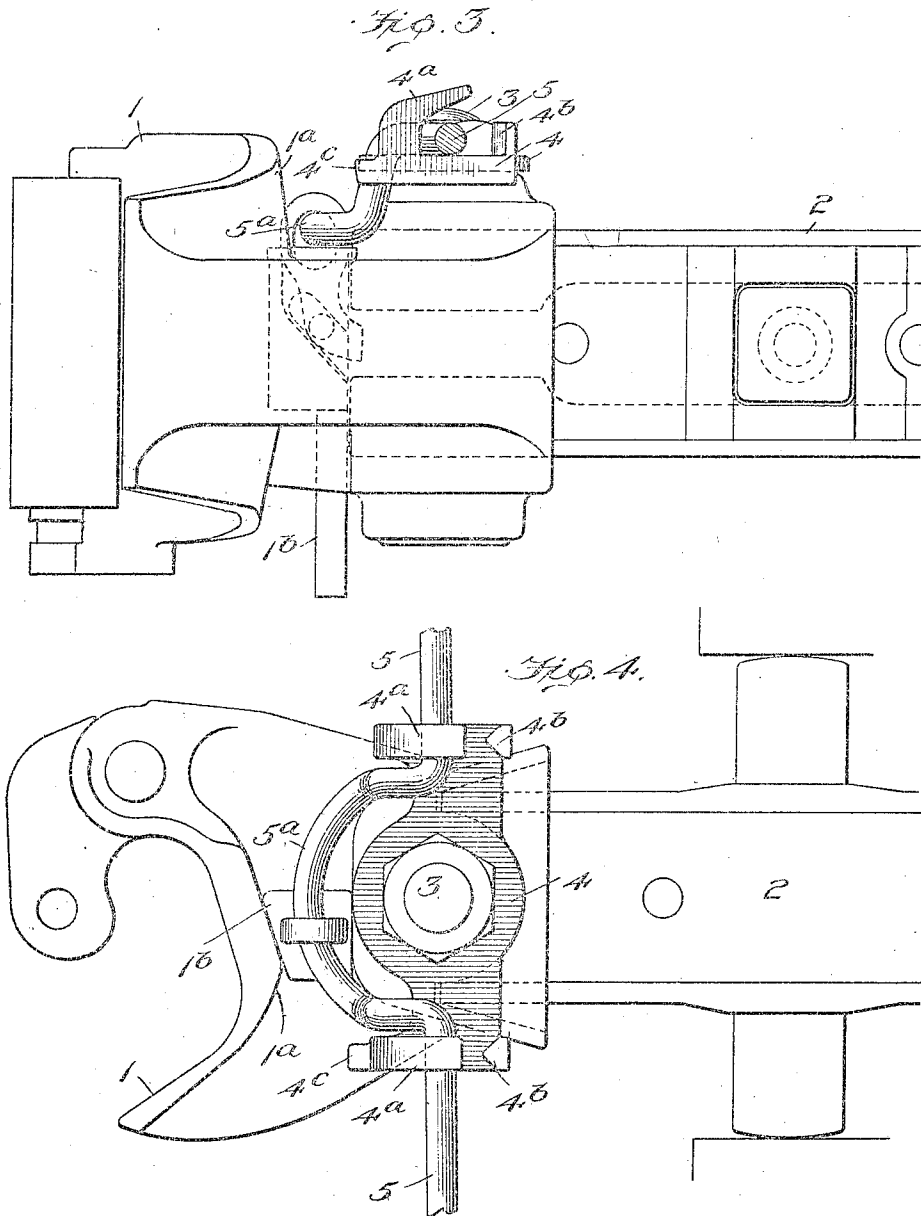


1,032,066.

J. & W. KELSO.
UNCOUPLING MECHANISM.
APPLICATION FILED JULY 31, 1911.

Patented July 9, 1912.

3 SHEETS—SHEET 2.



Witnesses
Edwin L. Bradford
M. D. Ballouf

Inventors
Joseph Kelso
William Kelso
By *Ritter & Ritter*
Their Attorneys

J. & W. KELSO.
 UNCOUPLING MECHANISM.
 APPLICATION FILED JULY 31, 1911.

1,032,066.

Patented July 9, 1912.

3 SHEETS-SHEET 3.

Fig. 5.

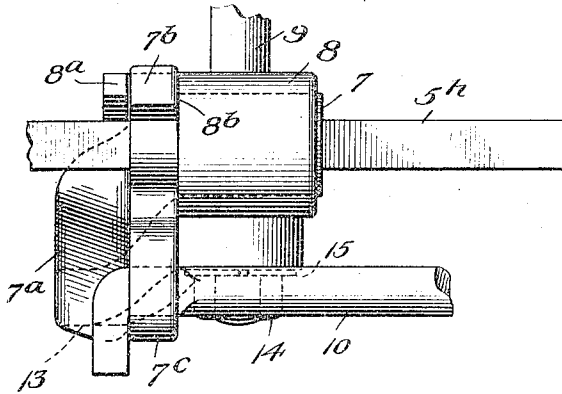


Fig. 6.

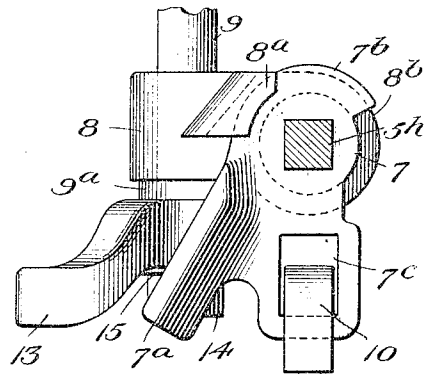


Fig. 7.

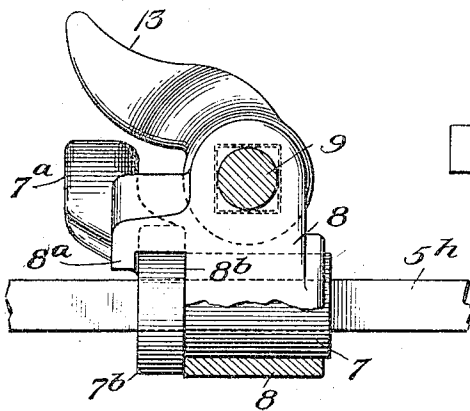


Fig. 8.

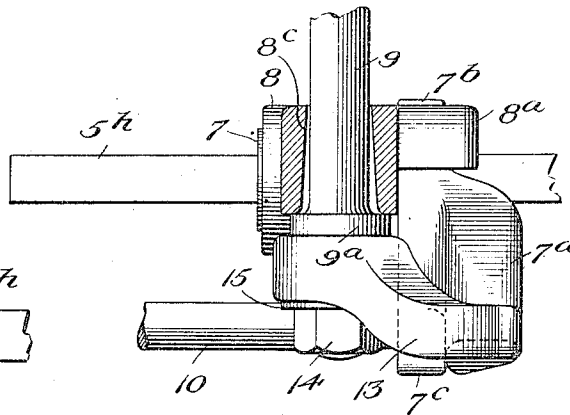


Fig. 9.

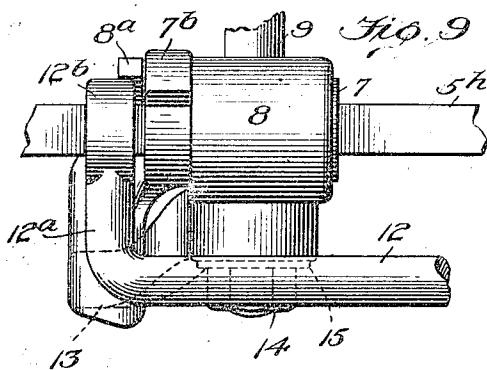
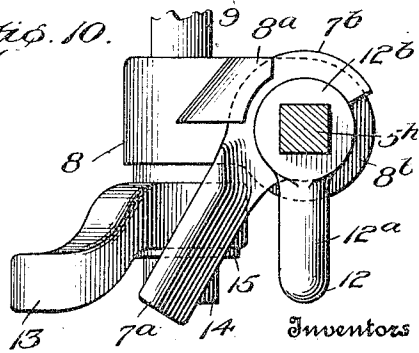


Fig. 10.



Witnesses
 Edwin L. Bradford
 W. D. Ballauf

Inventors
 Joseph Kelso
 William Kelso
 By *Ketter & Ketter*
 Their Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH KELSO AND WILLIAM KELSO, OF PITTSBURGH, PENNSYLVANIA, ASSIGNORS
TO THE MCCONWAY & TORLEY COMPANY, OF PITTSBURGH, PENNSYLVANIA, A
CORPORATION OF PENNSYLVANIA.

UNCOUPLING MECHANISM.

1,032,066.

Specification of Letters Patent.

Patented July 9, 1912.

Application filed July 31, 1911. Serial No. 641,604.

To all whom it may concern:

Be it known that we, JOSEPH KELSO and WILLIAM KELSO, citizens of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Uncoupling Mechanism; and we 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.

This invention relates to the construction of uncoupling mechanism for effecting the unlocking of car couplers and is particularly designed to afford simple and efficient means for unlocking couplers which, as a whole, are capable of a pivotal or swinging movement with respect to the body of the car to which the coupler is attached and in which the head of the coupler is movably mounted on the coupler stem or shank.

To effect the object of our invention, the uncoupling mechanism generally stated, comprises a slidable and axially rotatable shaft or uncoupling bar that is provided with a curved crank portion which engages the coupler lock, the latter being slidably connected to the curved crank of the uncoupling shaft, and said shaft being rotatable upon its axis either from the side of the car, through the instrumentality of a rocking uncoupling lever, or from the platform of the car, through the instrumentality of a vertically extending rotatable staff.

In the drawings chosen for the purpose of illustrating our invention, the scope whereof is pointed out in the claims, Figure 1 is a plan view of an uncoupling mechanism embodying our invention, showing its relation to the coupler and to the car platform, a portion of the vertically extending operating staff being omitted; Fig. 2 is a view, partly in elevation and partly in vertical section, showing the uncoupling mechanism, coupler and car platform illustrated in Fig. 1; Fig. 3 is a detail side elevation of the coupler and a portion of the uncoupling mechanism; Fig. 4 is a detail plan view of the coupler and the adjacent portion of the uncoupling mechanism; Fig. 5 is a detail front elevation of the devices by which the slidable uncoupling bar, rotatable operating staff and rocking uncoupling lever are operatively connected; Fig. 6 is a detail side

elevation of the devices illustrated in Fig. 5; Fig. 7 is a detail plan view of the devices illustrated in Fig. 5; Fig. 8 is a detail view, partly in rear elevation and partly in vertical section, showing the parts illustrated in Fig. 5; Fig. 9 is a detail front elevation showing a modified form of means for operatively connecting the slidable uncoupling bar, rotatable operating staff and rocking uncoupling lever, and Fig. 10 is a detail side elevation of the device illustrated in Fig. 9.

Like symbols refer to like parts wherever they occur.

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

In the drawings, 1 indicates the coupler head and 2 the coupler stem, these parts being pivotally connected, as by means of a vertical pivot pin 3, and the rear end of the coupler shank or stem 2 being also preferably pivotally connected to the car body. The particular forms of laterally swinging coupler and pivotally mounted coupler head shown in the drawings by way of example are illustrated and described in detail in Patent No. 950,485, William Kelso, March 1, 1910, and, therefore, such parts will not be further described herein.

Pivotally mounted upon the upper face of the coupler head 1, as by means of the pivot pin 3 which connects the coupler head to the coupler stem, is a plate or bracket 4 which supports an uncoupling bar 5 that extends transversely of the car. In order to prevent the horizontally extending uncoupling bar 5 from becoming disassociated from the swiveled supporting plate 4 when the device is in service, as well as for the purpose of allowing the uncoupling bar to rotate upon its axis, the swiveled supporting plate is preferably provided at opposite sides with upwardly and rearwardly extending lugs or hooks 4^a to the rear of which are vertically extending lugs or stops 4^b. As more particularly shown in Figs. 3 and 4, these hooks and their respective lugs are separated a sufficient distance to permit the introduction of the uncoupling bar 5, the latter being capable of changing its angular relation with respect to the plate 4 and being retained in proper assembled relation to the swiveled plate 4 by means of the rearwardly extending portions of the hooks 4^a.

In order to limit the swinging movement of the supporting plate 4 with respect to the coupler head 1 said supporting plate may, if desired, be provided with a stop 4^c which is adapted to engage the rear wall 1^a of the coupler head.

The uncoupling bar 5, which is preferably made of jointed sections, is provided with a curved crank portion 5^a that is slidably connected to the lock 1^b of the coupler, the curvature of such crank preferably corresponding to a circular arc concentric with the pivot pin 3 by which the swiveled supporting plate 4 is connected to the coupler head. As a convenient means for connecting the sections 5^b and 5^c of the uncoupling bar so as to permit them to turn or hinge upon each other in a horizontal plane, the inner end of the section 5^c may be provided with a circular eye 5^d that is adapted to receive the vertically extending cylindrical end 5^e of the complementary uncoupling bar section 5^b, a cotter 5^f being employed to maintain the connection of these parts. The uncoupling bar section 5^c is loosely and slidably supported in a bracket or hanger 6 which is secured to the under side of the car platform and the outer end of this section is preferably provided with a crank arm or handle 5^g by means of which the uncoupling bar 5 may be rotated upon its axis to thus permit the trainman to unlock the coupler while standing at one side of the car, as will be readily understood.

In order to enable the trainman to unlock the coupler while standing upon the platform of the car, as well as to permit the uncoupling mechanism to move from side to side when the coupler swings laterally, the outer portion of the section 5^b of the uncoupling bar is mounted in a sleeve or bushing 7, so as to be slidable therethrough but incapable of rotating therein, this portion of the uncoupling bar section 5^b being for this purpose preferably of rectangular cross section at 5^h, and the receiving aperture in the sleeve 7 being of corresponding form. The sleeve or bushing 7 is journaled in a supporting member 8 which, as more particularly shown in Fig. 8, is rotatably mounted upon the vertically extending operating shaft 9, the latter being preferably provided near its lower end with a boss or collar 9^a upon which the member 8 rests and the staff-receiving aperture in the latter being preferably conical or tapering in form, as at 8^c, to prevent binding between the supporting member and staff 9.

The sleeve or thimble 7 which receives the horizontally extending uncoupling bar 5 is provided at one end with a radially projecting lug or finger 7^a and with a flange or collar 7^b which extends into the space or recess between the inner face of the lug 8^c of the supporting member 8 and the adja-

cent parallel face 8^b of said supporting member to thus maintain the sleeve 7 in proper operative position. As more particularly shown in Figs. 6 and 10 the collar or flange 7^b is preferably of interrupted or segmental form as such a construction permits the sleeve member 7 to be readily inserted and withdrawn from the corresponding cylindrical aperture of the member 8. By simply rotating such sleeve member until the flange 7^b thereof is clear of the limit lug or stop 8^a of the member 8, the thimble 7 may be slid horizontally and thus assembled in or disassociated from the supporting member 8.

In the form of construction illustrated in Figs. 1 to 8, inclusive, of the drawings, the member 7, in which the uncoupling bar 5 is slidably mounted, is shown as provided with an eccentrically located rectangular eye 7^c which loosely receives the hooked inner end of an uncoupling crank or lever 10 which is loosely journaled in a hanger or bracket 11 that is secured to the under side of the car platform. The outer end of this uncoupling crank or lever is provided with a crank arm or handle 10^a and its hooked inner end 10^b is of a cross sectional form corresponding generally to the opening in the eye 7^c of the member 7. This construction, as will be readily understood, enables the trainman to unlock the coupler when standing on the ground on the opposite side of the car from that at which the uncoupling lever or handle 5^g is located, since by pulling in the proper direction upon the lever 10^a the uncoupling lever 10 is caused to rock in its supporting bracket 11 and thereby rotate the sleeve 7 in its supporting member 8, thus causing the cranked uncoupling bar 5 to rotate upon its axis and move the coupler lock 1^b to an unlocked position. It will be seen, therefore, that the coupler may be unlocked from either side of the car.

In the modified form of construction shown in Figs. 9 and 10 the thimble 7 which receives the uncoupling bar 5 is fashioned without the rectangular eye 7^c. In this form of construction an uncoupling lever 12 is substituted for the uncoupling lever 10, said lever 12 being precisely like the lever 10 already described except that instead of being provided with a hooked inner end 10^b it is provided with an upwardly extending lever arm 12^a which is fashioned with a perforated eye 12^b which receives the rectangular uncoupling bar 5 and permits the latter to slide therethrough. By rotating the uncoupling lever 12 in the proper direction the uncoupling bar 5 will be rocked upon its axis thus causing its crank arm 5^a to move the coupler lock 1^b to unlocked position.

In both the preferred and illustrated modified form of the invention the vertically extending operating staff 9 is provided

at its lower end with a rigidly attached driving lug or finger 13 which may be conveniently maintained on said staff by means of a nut 14 and washer 15. The upper end of the staff may, if desired, be journaled in any suitable form of bracket 16 and said staff may be rotated by means of the well-known and commonly employed form of pivoted handle 17. By rotating the staff 9 the driving finger 13 on the lower end thereof is caused to engage and drive the radially extending lug or finger 7^a of the sleeve 7 in which the uncoupling bar 5 is mounted, thus rocking the uncoupling bar and raising the coupler lock 1^b to unlocked position.

In assembling the unlocking mechanism the sleeve or thimble 7, illustrated in Figs. 1 to 8, inclusive, of the drawings, is inserted in the corresponding cylindrical aperture of the supporting member 8, the hooked end 10^b of the uncoupling lever 10 is inserted in the eye 7^c of the sleeve member and the squared end 5^b of the section 5^b of the uncoupling bar is then passed through the thimble 7. The crank portion 5^a of the uncoupling bar is then positioned between the lugs 4^a and 4^b of the swiveled supporting plate 4 and the eye 5^a of the section 5^c of the uncoupling bar is then passed over the vertically extending cylindrical end 5^c of the other uncoupling bar section, the cotter 5^c being thereafter inserted to maintain the connection of the two sections of the uncoupling bar. The vertically extending staff 9, to which the driving finger 13 has been previously secured, is then passed through the staff receiving opening 8^c in the supporting member 8 and the handle 17 is secured to the upper end of said staff. The modified form of construction illustrated in Figs. 9 and 10 is assembled in substantially the same manner.

An uncoupling mechanism constructed in accordance with our invention readily adapts itself to the various positions which the coupler may assume in service, thus permitting the coupler to be easily unlocked at any time. By supporting the uncoupling bar 5 upon the plate 4 which is mounted upon the pivot pin 3 that serves to connect the coupler head to the step 2 and by forming the crank 5^a of the uncoupling bar as the arc of a circle having its center in or substantially in the axis of the pivot pin 3, the connection between the coupler lock 1^b and the segmental crank 5^a on which it is slidably mounted is maintained when the coupler head 1 turns upon the pivot pin 3, and the coupler may be readily unlocked by a rotation of the uncoupling bar 5 upon its axis. When the coupler as a whole swings laterally the uncoupling bar 5 is caused to slide correspondingly through the enlarged

hanger 6 and through the sleeve 7, the hinged connection between the uncoupling bar sections 5^b and 5^c and the ability of the sleeve-supporting member 8 to rotate on the vertical operating staff 9 serving to permit the uncoupling bar to accommodate itself to the various positions of the coupler. When the coupler moves inwardly under buffing strains or outwardly under the application of draft forces the two sections 5^b and 5^c of the uncoupling bar change their angular relation in a corresponding manner, as will be readily understood.

We claim:

1. An uncoupling mechanism for car couplers, said mechanism having a slidable and axially rotatable uncoupling bar extending transversely of the car, a staff which is rotatable about an axis forming an angle with the axis upon which the uncoupling bar is rotatable, means for rotating said staff, and driving connections actuated by a rotation of said staff for effecting a rotation of said uncoupling bar.

2. An uncoupling mechanism for car couplers, said mechanism having an uncoupling bar which is slidable in the direction of its length and which is provided with a curved crank that is adapted to be operatively connected with the lock of the coupler, a rotatable uncoupling lever slidably connected to said uncoupling bar and adapted to rotate the same, a rotatable staff extending at an angle to the uncoupling bar, and means actuated by a rotation of said staff for rotating said uncoupling bar.

3. An uncoupling mechanism for car couplers, said mechanism having an axially rotatable uncoupling bar, a rotatable sleeve in which said uncoupling bar is slidably mounted, a rotatable staff, a member rotatably supported on said staff and in which said sleeve is journaled, a driving lug rotatable with said staff, and a lug on said sleeve which is engaged and driven by said driving lug when the staff is rotated in one direction.

4. In an uncoupling mechanism, the combination with a pivotally mounted coupler head, of an uncoupling bar mounted on and movable with the coupler and having a crank the center of curvature of which is substantially in the axis of rotation of the coupler head.

In testimony whereof we affix our signatures, in the presence of two subscribing witnesses.

JOSEPH KELSO.
WILLIAM KELSO.

Witnesses:

J. W. HARTLEY,
F. D. ECKER.