July 30, 1935. W. KELSO 2,009,930

UNCOUPLING MECHANISM

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Fig. 1.

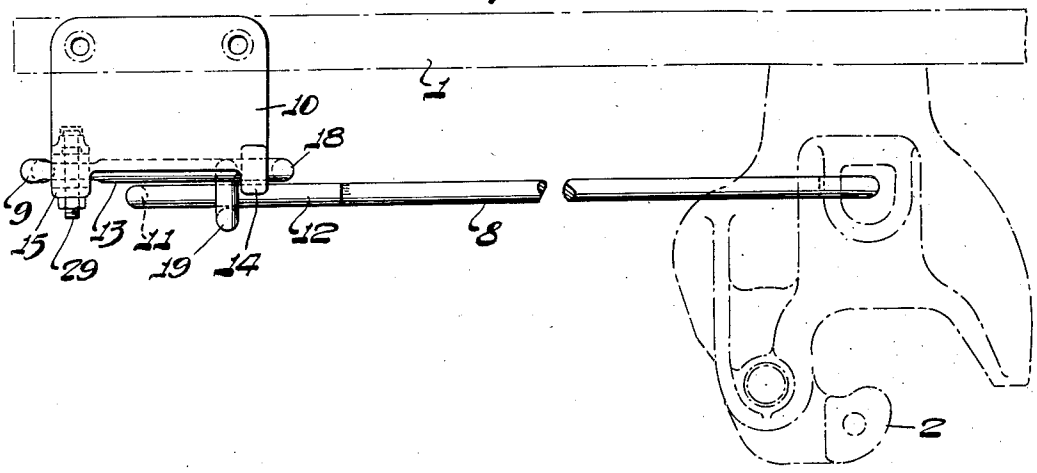


Fig. 2.

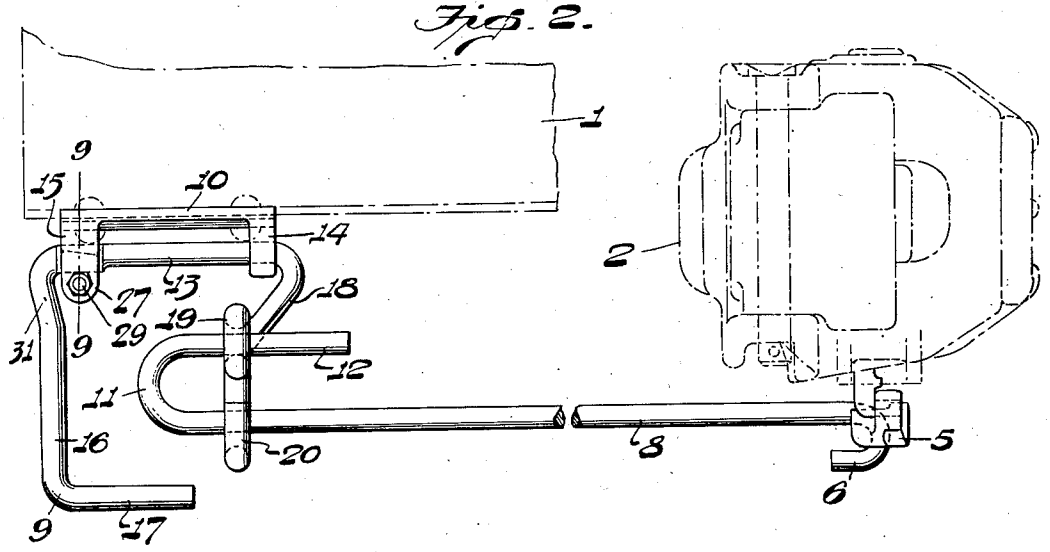


Fig. 3.

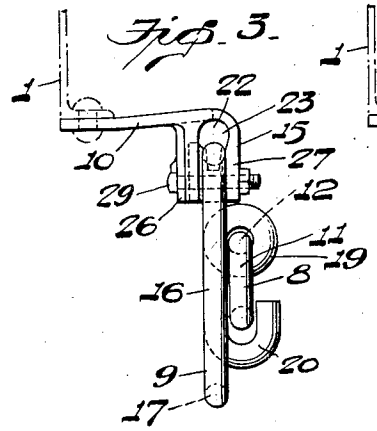
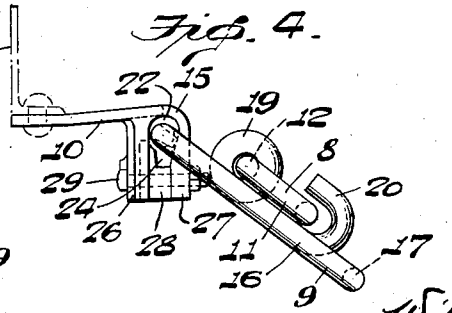


Fig. 4.



Inventor

William Kelso

By Fisher & Fisher

Attorneys

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Fig. 5.

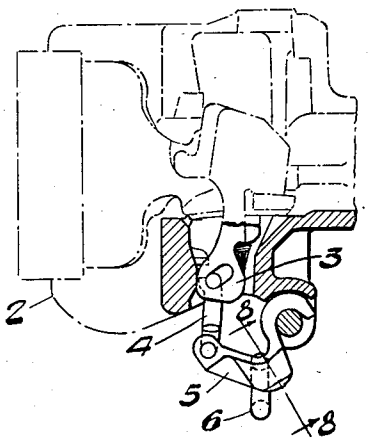


Fig. 6

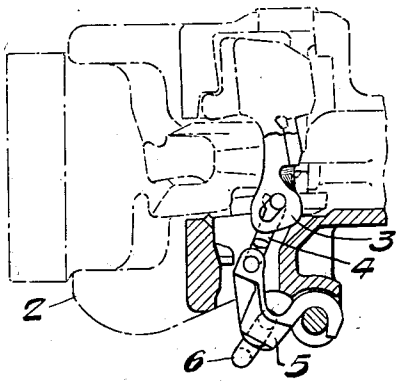


Fig. 10

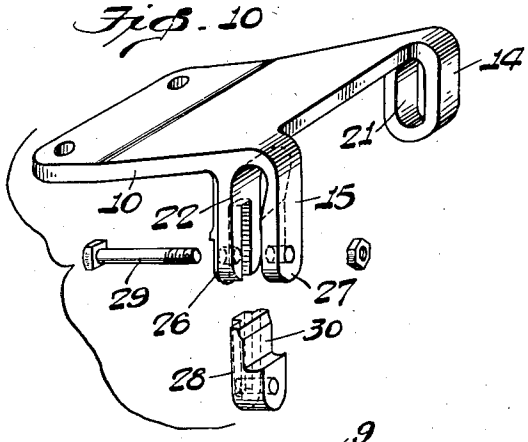


Fig. 9.

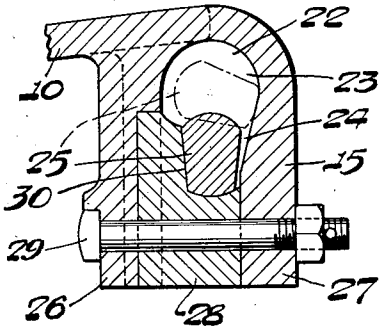


Fig. 7.

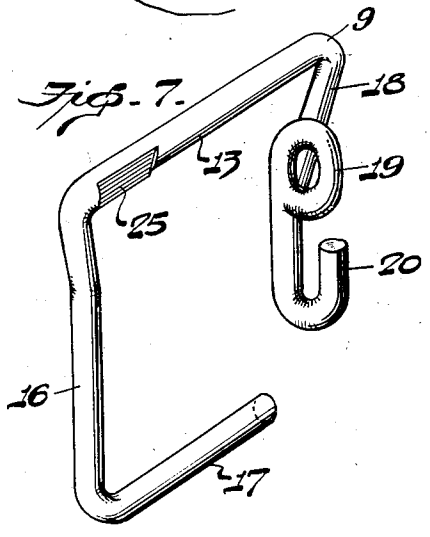
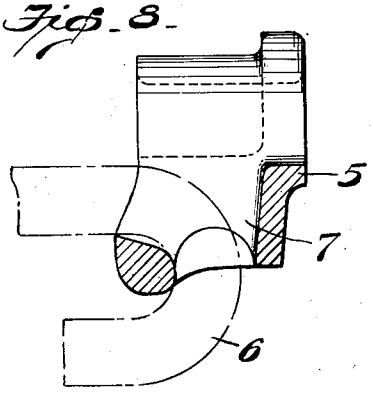


Fig. 8.



Inventor

William Kelso

By Potter & Potter

his Attorneys

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UNITED STATES PATENT OFFICE

2,009,930

UNCOUPLING MECHANISM

William Kelso, Pittsburgh, Pa., assignor to McConway & Torley Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Application November 1, 1934, Serial No. 751,083

5 Claims. (Cl. 213—166)

My invention relates to uncoupling mechanism employed for unlocking a car coupler.

The principal object of the invention is to provide a device of the lever type in which accidental swinging movement of the handle portion of the lever is eliminated as far as practicable, and in which said handle portion is maintained in a laterally fixed position in relation to the car body. By this means the uncoupling mechanism is restrained against accidental movements tending to effect release of the lock-to-the-lock of the car coupler, and the operating handle of the uncoupling mechanism is always in a position where it may be conveniently reached and actuated by the trainman.

The principal feature of the invention, generally stated, resides in constituting the uncoupling mechanism of two relatively slidable parts, one of which is in the form of a shaft member adapted to be connected at its inner end to the locking mechanism of the car coupler and the other of which is a handle member adapted to be rotatably mounted on the end of the car, the shaft portion being provided at its outer end with spaced parallel portions and the handle portion being formed with a hook and spaced eye which respectively receive the spaced portions of the shaft member, and means being provided for preventing accidental unlocking rotation of said handle member.

In the drawings illustrating the invention, the scope whereof is pointed out in the claims:

Figure 1 is a plan view of an uncoupling mechanism embodying the invention, a car coupler and the portion of the car with which it is associated being shown in dot and dash lines and the parts being in the position they occupy when the coupler is locked.

Figure 2 is an elevational view of the construction shown in Figure 1, the parts being in locked position.

Figure 3 is an end elevational view of the uncoupling mechanism, the parts being in the position they occupy when the coupler is locked.

Figure 4 is a view corresponding to Figure 3 but showing the position of the parts when the mechanism is actuated to unlock the coupler and open its knuckle.

Figure 5 is a detail view, partly in section and partly in elevation, illustrating the relation of the uncoupling mechanism to a well known form of car coupler, the parts being in the position they occupy when the coupler is locked.

Figure 6 is a view corresponding to Figure 5 but showing the position assumed by the parts when the uncoupling mechanism is operated to unlock the coupler.

Figure 7 is a detail perspective view of the handle member of the mechanism.

Figure 8 is a detail view, partly in elevation and partly in section, showing the mode of connecting the inner end of the uncoupling device to the locking mechanism of the coupler.

Figure 9 is a detail sectional view on the line 9—9 of Figure 2.

Figure 10 is a detail perspective view showing the handle supporting bracket and the means for maintaining said handle member in assembled relation to the bracket.

In the drawings 1 indicates a portion of the end of a railway car upon which is mounted a car coupler 2 whose locking mechanism is designed to be actuated by the uncoupling mechanism. The particular form of car coupler shown by way of illustration is the well known standard "E" coupler having the lock 3, toggle member 4 acting as a lock-to-the-lock, and a rotary lock lifter 5. When a coupler of this form is employed the uncoupling mechanism is connected thereto by providing the shaft portion of the uncoupling mechanism with a hook 6 which hooks into the opening 7 with which the rotary lock lifter member 5 is provided.

The uncoupling mechanism, which is of the lever type, comprises a shaft member 8 and a handle member 9, the latter being movably mounted in a bracket 10 rigidly secured to the car body. The shaft member 8 is provided at its inner end with a hook 6 and is formed at its outer end with a return bend or hook 11 which provides an inwardly extending portion or finger 12 that is parallel to and in spaced relation with the intermediate portion or body of the shaft member. The finger or extension 12 is of such length that swinging movements of the car coupler may be freely executed without causing any lateral movement of the handle member 9 mounted on the car body.

The handle member 9 of the uncoupling mechanism is provided with a central shaft portion 13 which is mounted in the laterally spaced bearings 14 and 15, respectively, of the bracket 10. Rigidly connected to the outer end of the portion 13 and depending therefrom is an arm 16, the lower end of which is preferably bent inward so as to extend horizontally, as indicated at 17. The portion 17 of the operating arm provides a full handgrip for the trainman and enables maximum leverage to be applied in operating the uncoupling mechanism. At the inner end of its shaft por-

tion 13 the outer or actuating member 9 of the uncoupling mechanism is integrally provided with an arm 18 which is formed with an eye 19 and an upwardly opening hook 20. The eye 19 and hook 20 are appropriately spaced vertically to enable them respectively to receive the horizontally extending finger 12 and the intermediate shaft portion of the shaft member 8; and the arm 18 is preferably bent outwardly adjacent the inside bearing 14 of the bracket so as to position the eye 19 outward of the bearing 14, thereby preventing the weight of the shaft member 8 of the uncoupling mechanism from having any tendency to induce a lifting of the outer end of the actuating or handle member 9.

The opening 21 through the bearing 14 of the supporting bracket is elongated to permit the outer portion of the handle member 9 to be inserted therethrough, and its lower inner face is rounded for cooperation with the corresponding rounded central shaft portion of the actuating member 9. The opening 22 through the bearing 15 is of key-hole form, its upper portion 23 being rounded and its lower part 24 being constricted for receiving and cooperating with the flattened portion 25 of the central shaft of the handle member 9. When this flattened portion of the handle member is in the constricted portion 24 of the opening of the bearing 15 the handle or actuating member 9 is locked against rotation, but when, (as indicated by dot and dash lines in Figure 9) the outer end of the member 9 is elevated sufficiently the flattened portion 25 of its shaft 13 enters the enlarged portion 23 of the bearing opening 22 and the handle member 9 is then capable of rotation. To permit the outer or handle member of the uncoupling lever to be assembled within the outer bearing 15 of the bracket 10, said outer bearing is preferably formed as two depending lugs, 26 and 27, respectively, which are spaced apart sufficiently to permit the entry of the central shaft portion 13 of the handle member, the space between the lower ends of said lugs being closed by a filler block 28 which may conveniently be secured in place by a bolt 29 extending through said block and said lugs. The upper end of the block 28 is cut away or reduced in width on one side, as indicated at 30, so that in conjunction with the outer lug 27 of the bearing 15, it forms the narrow portion 24 of the opening 22 in the bearing. Adjacent the outer bearing 15 of the supporting bracket 10 the lever arm 16 of the handle member is preferably formed with a slight inward bend, as shown at 31. This bend results in displacing the lower vertical portion of the arm 16 slightly inward, so that should the operator, either during the act of uncoupling or afterwards, force the member 9 toward the center of the car no binding, such as might retard or prevent the hand-actuating member 9 from dropping into a locked position, occurs between the lever arm 16 and the outer side of the supporting bearing 15.

To assemble the mechanism the hand-grip portion 17, the lever arm 16, and the shaft 13 of the outer or actuating member 9 of the uncoupling mechanism are first threaded through the inner bearing 14 of the bracket 10 attached to the car body. The inner hooked end 6 of the horizontal or shaft member 8 is then attached to the rotary lifter 5 carried by the coupler head and the hooked outer end of said shaft member is then properly positioned in the eye 19 and hook 20 of the outer or handle member 9. The actuating member 9 is then raised and its flattened portion 25 is positioned between the lugs 26 and 27 of the outer bearing 15 of the supporting bracket, after which the filler block 28 is put in place and secured by means of the bolt 29.

In operating the uncoupling mechanism to effect an unlocking of the coupler, the operator grasps the handgrip 17 or the lever arm 16 and lifts upward until the flattened portion 25 of the hand-operating member 9 moves out of the constricted portion 24 of the bearing opening 22 and enters the larger portion 23 of said opening. When the member 9 has thus been raised to free it from locking engagement with the bracket 10 it may be rotated forward and upward, thus imparting to the inner or shaft member 8 of the uncoupling device an upward rotating movement which communicates an uncoupling rotation to the rotary lock lifter 5, thereby effecting an unlocking of the coupler. When the operator releases his hold upon the handle member 9 and the position of the parts of the coupler permit it to do so, the handle member drops to locked position, the flattened portion 25 of the shaft 13 entering the constricted portion 24 of the opening 22 and thereby locking the handle member against accidental rotation.

I claim:

1. An uncoupling mechanism comprising a shaft member, a member for actuating said shaft member, and a bracket for supporting said actuating member, said shaft member being provided at its outer end with spaced portions, and said actuating member being adapted to rotate in said bracket and being formed at its inner end with a hook and an eye for respectively receiving said spaced portions of said shaft member.

2. An uncoupling mechanism comprising a shaft member, a rotatable member for actuating said shaft member, and means adapted to be mounted on a car for supporting said actuating member, said shaft member being provided at its inner end with a hook adapted to be connected to the locking mechanism of a car coupler and being provided at its outer end with a hook forming spaced parallel portions, and said actuating member being formed at its inner end with a hook and an eye for respectively receiving said spaced portions of the shaft member and being provided at its outer end with a lever arm whereby it may be rotated.

3. An uncoupling mechanism comprising a shaft member adapted to be connected to the locking mechanism of a car coupler, and a member for actuating said shaft member, and a bracket adapted to be mounted on a car and forming a support for said actuating member, said shaft member being laterally slidable with respect to said actuating member and being provided at its outer end with spaced portions, said actuating member being formed at its inner end with a hook and an eye for respectively receiving said spaced portions of said shaft member and being adapted to rotate in said bracket, and said actuating member and bracket being provided with cooperating means for preventing accidental rotation of said actuating member.

4. An uncoupling mechanism comprising a shaft member, a member for actuating said shaft member, and a bracket adapted to be mounted on a car and forming a support for said actuating member, said shaft member being laterally slidable with respect to said actuating member and being provided at its inner end with means whereby it may be connected to the locking mechanism of a car coupler, and being formed at its outer

end with spaced portions, said actuating member being formed to cooperate with said bracket so as to be substantially fixed against lateral movement with respect thereto and being adapted to rotate in said bracket and being formed at its inner end with a hook and an eye for respectively receiving said spaced portions of said shaft member and being provided with an operating lever arm.

5. An uncoupling mechanism comprising a shaft member adapted to be connected to the locking mechanism of a car coupler, a member for actuating said shaft member, and a bracket adapted to be mounted on a car and forming a support for said actuating member, said shaft member being bent at its outer end to form spaced portions, said actuating member being formed at its inner end with a hook and an eye for respectively receiving said spaced portions of said shaft member, said bracket being provided with bearings having openings through which said actuating member extends and within which said actuating member is adapted to rotate, one of said openings having a constricted portion, and said actuating member being provided with a flattened portion adapted to be received in said constricted portion of said opening, said last named opening being bounded in part by a removable filler block, and said actuating member being provided at its outer end with an operating lever arm having a hand-grip portion extending inwardly therefrom.

WILLIAM KELSO.