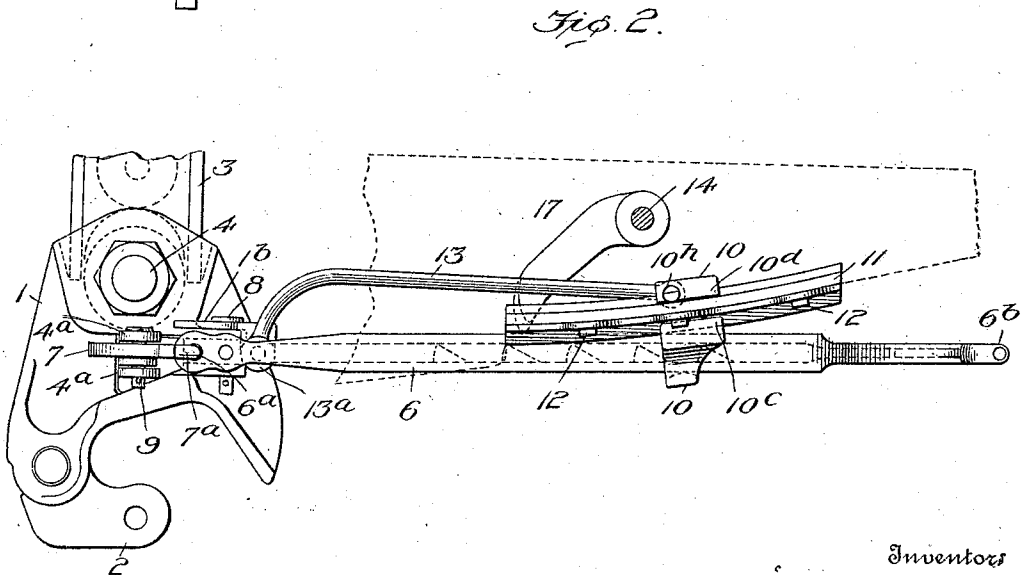
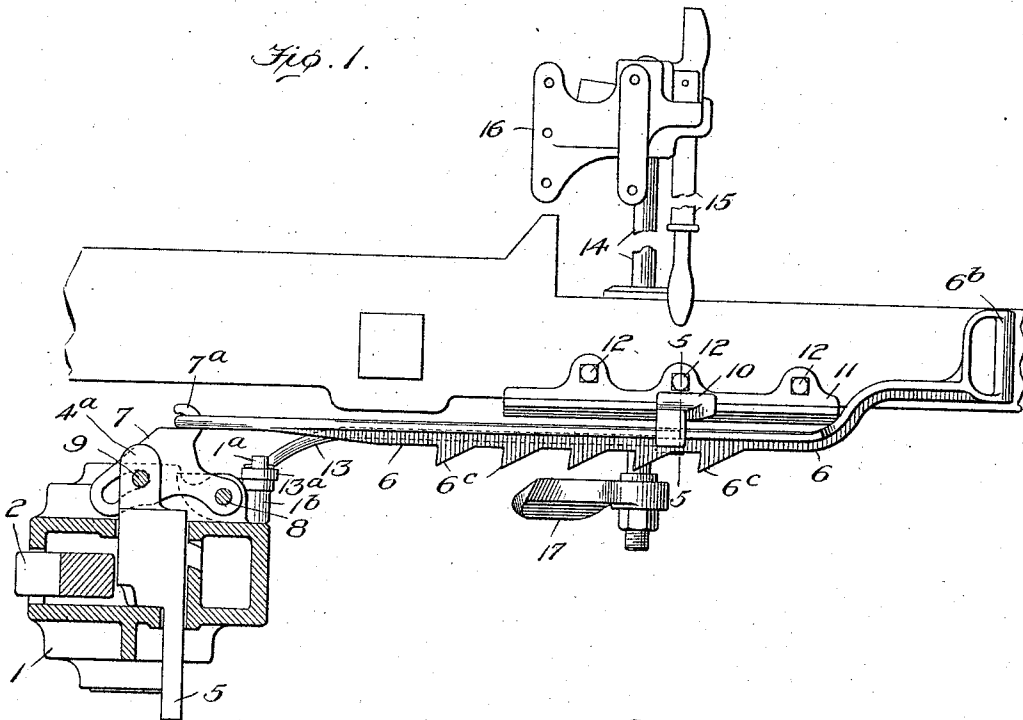


W. & J. KELSO.
 UNCOUPLING MECHANISM.
 APPLICATION FILED SEPT. 22, 1911.

1,066,282.

Patented July 1, 1913.
 2 SHEETS—SHEET 1.



Witnesses
 Edwin L. Bradford
Chas. E. Dwyer

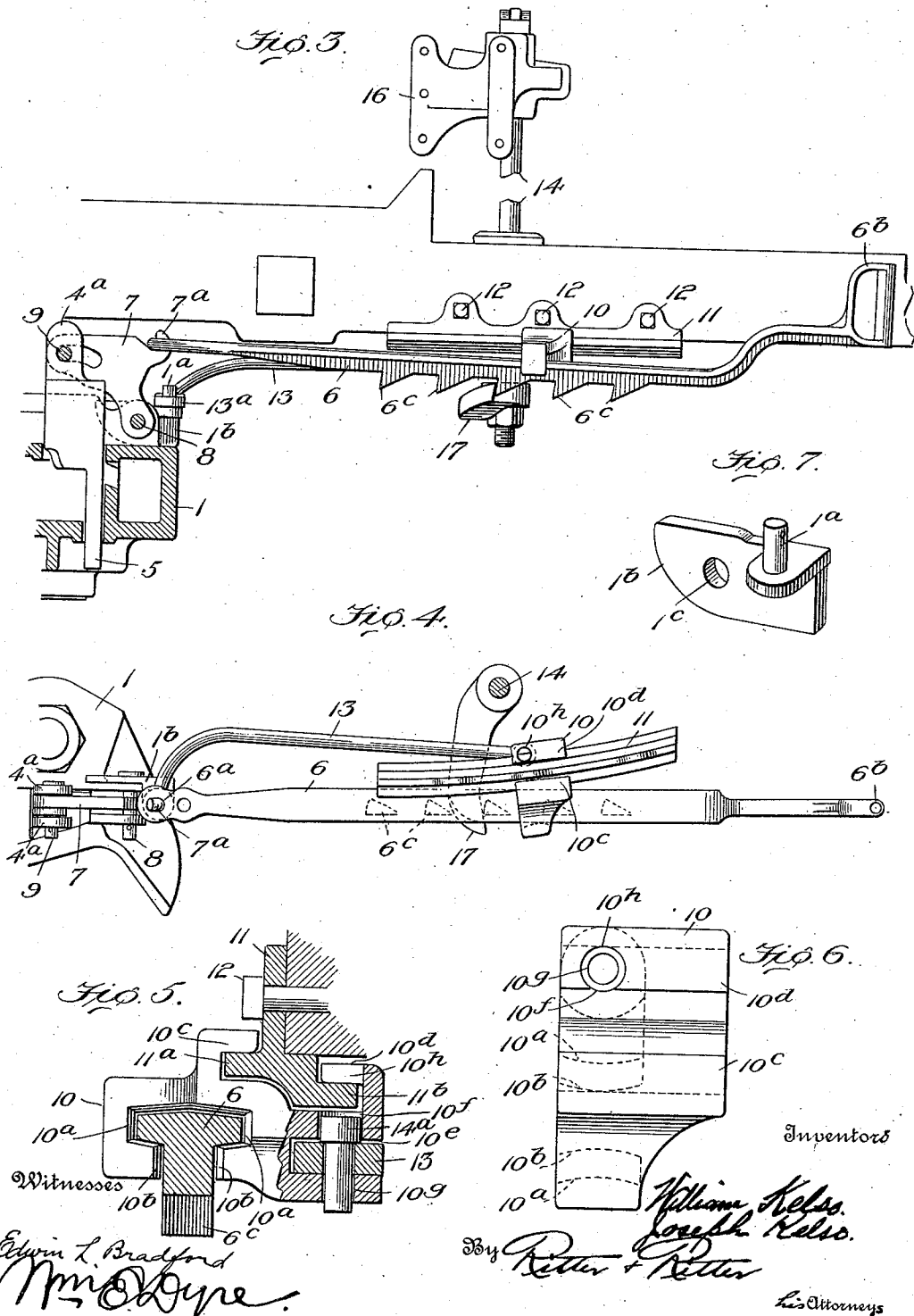
Inventors
 William Kelso
 Joseph Kelso
 By *Ritter & Ritter*
 his Attorneys

W. & J. KELSO.
 UNCOUPLING MECHANISM.
 APPLICATION FILED SEPT. 22, 1911.

1,066,282.

Patented July 1, 1913.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

WILLIAM KELSO AND JOSEPH KELSO, OF PITTSBURGH, PENNSYLVANIA, ASSIGNORS TO
THE McCONWAY & TORLEY COMPANY, OF PITTSBURGH, PENNSYLVANIA, A COR-
PORATION OF PENNSYLVANIA.

UNCOUPLING MECHANISM.

1,066,282.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed September 22, 1911. Serial No. 650,704.

To all whom it may concern:

Be it known that we, WILLIAM KELSO and JOSEPH KELSO, both 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.

Our invention relates to the construction of uncoupling mechanism employed for the purpose of effecting the unlocking of car couplers and is designed to be especially useful in connection with couplers which are capable of an extended lateral swinging movement on both sides of the longitudinal axis of the car to which they are attached.

In the operation of uncoupling mechanism of the type illustrated and described in pending application of William Kelso, filed May 3, 1910, Serial Number 559,144, it has been found that an accumulation of snow, ice, dirt and the like on the toothed uncoupling bar and in the bracket by which it is slidably supported upon the car, as well as friction due to an unwonted roughness of the engaging faces of the uncoupling bar and its supporting bracket, causes the uncoupling bar to bind somewhat in its supporting bracket when the coupler swings from side to side. When the coupler is moving toward the supporting bracket this binding of the uncoupling bar therein is effective to maintain the lock of the coupler in locked position; but when the coupler is swinging away from the bracket in which the uncoupling bar is slidably mounted, this binding of the parts has the tendency to effect such a movement of said bar with respect to the coupler as is designed to cause the coupler lock to be moved to unlocked position. This unlocking tendency in this type of uncoupling devices is, of course, objectionable.

The object of the present invention is to overcome in a simple and efficient manner the objection heretofore pointed out.

In the drawings chosen for the purpose of illustrating our invention, the scope whereof is pointed out in the claims, Figure 1 is a view partly in elevation and partly in sec-

tion showing the uncoupling mechanism in connection with a car coupler of the vertical plane type, the uncoupling mechanism being in elevation and the coupler being in transverse vertical section; Fig. 2 is a plan view of the devices illustrated in Fig. 1, the mechanism by which the uncoupling staff may be actuated by a trainman when standing upon the car platform being omitted; Fig. 3 is a view corresponding to Fig. 1, but illustrating the positions assumed by the parts when the uncoupling bar is actuated to cause the lock of the coupler to assume an unlocked position; Fig. 4 is a view corresponding to Fig. 2, but illustrating the positions assumed by the several parts when the lock of the coupler is brought to an unlocked position by means of the uncoupling devices; Fig. 5 is a detail vertical section taken in the plane of the line 5-5, Fig. 1; Fig. 6 is a detail plan view of the slidable support for the uncoupling bar; and Fig. 7 is a detail perspective view of the member by which the means for moving the slidable support for the uncoupling bar is pivotally connected to the coupler head.

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.

For the purpose of illustration merely, we have shown our invention as applied to a laterally swinging coupler such as is illustrated and described in Patent No. 950,485, granted March 1, 1910; but it is to be understood that our present improvement in uncoupling mechanism is capable of general application and is not limited to use with a car coupler having the features of construction shown in the drawings.

In the drawings, 1 is a coupler head, 2 the knuckle and 3 the coupler stem. As shown, the coupler head 1 and coupler stem 3 may be pivotally connected by means of a vertically extending bolt or pivot pin 4; the coupler head being thus capable of an independent lateral or swinging motion with respect to the stem.

As described in the pending application heretofore mentioned, the means for connecting the coupler lock 5 with the slidable uncoupling bar 6 may conveniently con-

sist of a lock-engaging bell-crank lever 7 which is pivotally mounted upon the coupler head by means of a pivot pin 8. This bell-crank lever 7 is preferably formed adjacent to its free end with a curved slot which receives a pin 9 that passes through the upwardly extending perforated lugs 4^a which are formed on the upper end of the coupler lock and receive the bell-crank lever 7 between them. For the purpose of pivotally connecting the bell-crank lever with the slidable uncoupling bar 6, the former may be conveniently fashioned with a hook 7^a 6^a formed in the end of the uncoupling bar. The uncoupling bar 6, which extends transversely of the car, is slidably supported in a bracket 10 which is movable laterally with the coupler, said bracket or support being for this purpose itself slidably mounted on a curved supporting rail or plate 11 which is secured to the car, as by means of bolts 12, and being attached to the coupler head 1 by means of a reach rod or connecting bar 13. As shown more particularly in Figs. 5 and 6 the opening in the bracket 10 through which the uncoupling bar 6 slides is preferably of T-form in cross section and its lateral walls 10^a and 10^b are preferably curved so that the opening through said bracket is somewhat wider at the ends than at the center. By thus forming the uncoupling bar receiving opening in the bracket 10, the slidable uncoupling bar 6, which is also preferably of T-form in cross section, may be readily suspended in the bracket and is capable of oscillating, as upon a pivot, when the coupler moves inwardly and outwardly in draft and buffing. As the aperture in the bracket 10 through which the uncoupling bar passes is open at the bottom, snow, ice and dirt are not apt to collect in such opening.

As a means for suspending the movable supporting member or bracket 10 from the fixed supporting member or rail 11 the bracket is preferably provided with inwardly projecting lugs or flanges 10^c and 10^d which rest and slide upon the upper surfaces of the curved flanges 11^a and 11^b, respectively, formed upon the supporting rail 11 that is bolted to the car platform, and for the purpose of forming a pivotal attachment with the reach rod 13 which is connected to the coupler head, the bracket 10 is preferably recessed or slotted on its inner face, as at 10^e, to receive such reach rod and is formed with pivot pin receiving apertures 10^f and 10^g that are adapted to receive a vertically extending pivot pin 14^a which passes through a corresponding aperture formed in the outer end of the reach rod. To permit the insertion of the pivot pin 14^a, the inner flange 10^d of the supporting bracket 10 is formed with an opening

10^h. As will be seen upon an inspection of Fig. 5, when the parts are in assembled position the headed pivot pin 14^a stands beneath the inner supporting flange 11^b of the supporting rail 11, the pivot pin 14^a being thus prevented from moving or jarring upwardly a sufficient distance to permit the bracket 10 to become disassociated from the rod 13 by which it is connected to the coupler head 1.

The fixed supporting member 11 upon which the bracket 10 is slidably mounted is preferably formed to suit the end sill of the car, and its length is sufficient to afford support for the bracket 10 when moved laterally to the positions corresponding to the extreme lateral displacements of the coupler. The inner supporting flange 11^b of the supporting rail is preferably in a lower plane than the outer flange 11^a, as by this means the supporting bracket 10 and uncoupling bar 6 may project but a short distance beyond and below the car platform.

The connecting bar or reach rod 13 by means of which the uncoupling bar supporting bracket 10 is caused to move with the coupler head is movably connected to the coupler head 1, preferably by a pivotal connection which may be conveniently formed by fashioning the inner end of the reach rod with a hub or eye 13^a which is adapted to receive a vertically extending pivot pin or pintle 1^a with which the coupler head is provided. In the particular form of construction illustrated in the drawings this pivot pin 1^a is formed as an integral part of a member 1^b which is detachable from the coupler head, said member 1^b being designed to rest upon the upper surface of the coupler head and to be secured in position thereon by means of the bolt or pivot pin 8 by which the bell-crank uncoupling lever 7 is pivotally mounted upon the coupler head, an appropriate aperture 1^c being formed in the pintle bearing member 1^b to receive the bolt 8.

If it is desired that the coupler may be unlocked by a trainman standing at the side of the car, the outer end of the uncoupling bar 6 is preferably formed with a handle 6^b, this end of said uncoupling bar being preferably offset upwardly, as shown in Figs. 1 and 3, to bring the handle 6^b to a position where it may be conveniently grasped by the trainman. By pulling outwardly upon the handle 6^b of the uncoupling bar 6, the latter is caused to slide through the movable supporting bracket 10, thus actuating the bell crank lever 7, which is pivotally mounted upon the coupler head, to cause the coupler lock 5 to be raised to unlocked position, as shown in Fig. 3.

If it is desired that the trainman shall be able to unlock the coupler while standing upon the car platform, the devices shown and described in pending application, Serial

Number 559,144, for effecting such result are preferably employed. Briefly described, those devices comprise a vertically extending uncoupling staff 14 to the upper end of which is pivotally secured a lever or handle 15 by which the staff may be moved upwardly in the direction of its length and also rotated, said staff being journaled in a bracket 16 which is adapted to be secured to the car. At its lower end the uncoupling staff 14 is provided with a rigidly attached operating arm 17 which, when the staff has been raised and rotated by means of its operating lever 15, moves into driving engagement with one of the downwardly extending teeth 6^c formed on the underside of the slidable uncoupling bar 6. As will be readily understood, when the operating arm 17 is in driving engagement with one of the teeth 6^c of the uncoupling bar, the continued rotation of the vertically extending staff 14 in an uncoupling direction, will cause the uncoupling bar 6 to slide through its movable support 10, thus actuating the bell-crank lever 7 and causing the lock 5 to assume an unlocked position, as illustrated in Figs. 3 and 4.

We claim:

1. In an uncoupling mechanism for car couplers, the combination with a slidable uncoupling bar which is movable in the direction of its length both with and also independently of the coupler, of a slidable member for supporting said uncoupling bar, means movable with the coupler for slidably connecting said uncoupling bar sup-

porting member to the car, and means for connecting said supporting member to the coupler to which the uncoupling mechanism is applied.

2. In an uncoupling mechanism for car couplers, the combination with a slidable uncoupling bar which is movable in the direction of its length both with and also independently of the coupler, of a movable supporting member by which said uncoupling bar is supported and with respect to which said uncoupling bar is slidable, a fixed member by which said movable supporting member is connected to the car, and means interposed between the coupler and the said movable supporting member for moving the latter when the coupler moves laterally.

3. In an uncoupling mechanism for car couplers, the combination with a slidable uncoupling bar having a handle whereby it may be actuated, of a slidable member for supporting said uncoupling bar, a supporting rail upon which the said uncoupling bar supporting member is slidably mounted, and a connecting bar pivotally connected to said slidable supporting member and to the coupler.

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

WILLIAM KELSO.
JOSEPH KELSO.

Witnesses:

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