(No Model.)

J. M. SCURR & E. D. WHIPPLE.

CAR COUPLING.

No. 493,793. Patented Mar. 21, 1893.

Fig. 1.

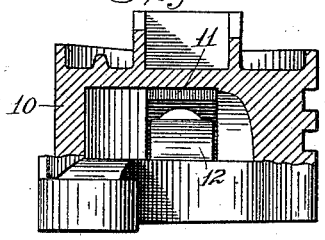


Fig. 9.

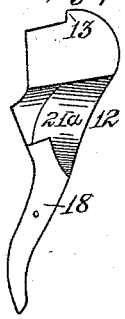


Fig. 2.

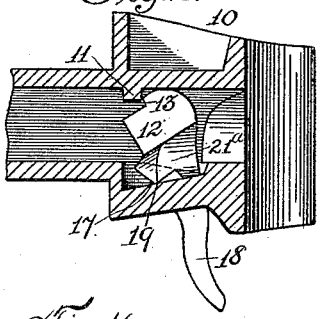


Fig. 3.

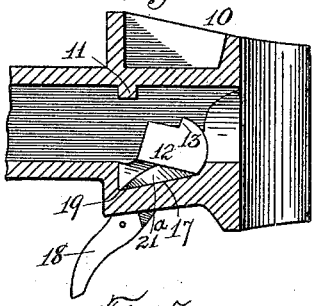


Fig. 10.

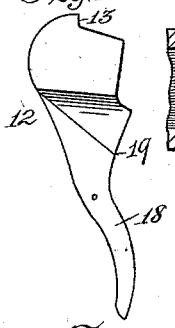


Fig. 4.

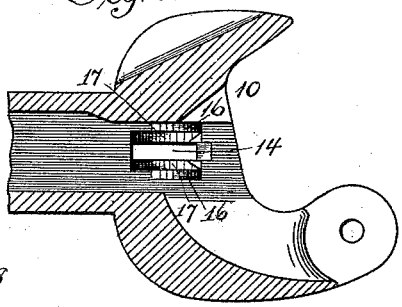


Fig. 5.

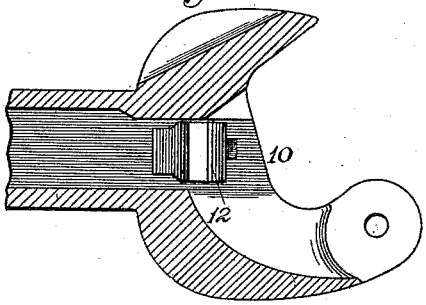


Fig. 11.

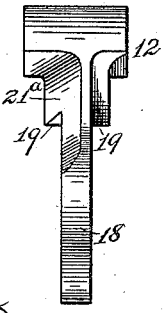


Fig. 6.

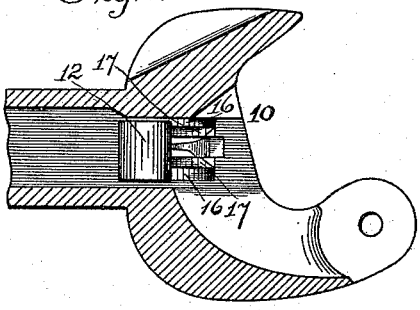


Fig. 7.

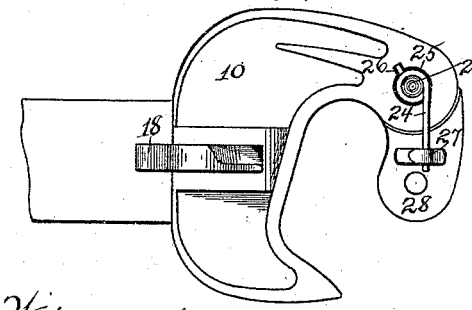


Fig. 12.

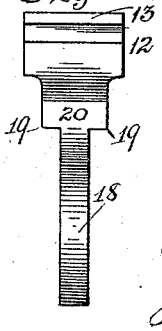
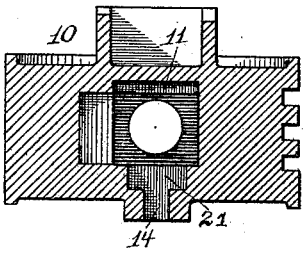


Fig. 8.



Witnesses
F. C. Tate.
G R Green

Inventors,
Eugene D. Whipple and
James M. Scurr, by
Charles C. Bulkley,
their Atty.

UNITED STATES PATENT OFFICE.

JAMES M. SCURR AND EUGENE D. WHIPPLE, OF CRESTON, IOWA, ASSIGNORS TO THE SIMPLEX CAR COUPLER COMPANY, OF ST. JOSEPH, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 493,793, dated March 21, 1893.

Application filed April 26, 1892. Serial No. 430,663. (No model.)

To all whom it may concern:

Be it known that we, JAMES M. SCURR and EUGENE D. WHIPPLE, citizens of the United States, both residing at Creston, in the county of Union and State of Iowa, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

Our invention relates to that class of car couplers known as the vertical plane type, and more particularly to certain improvements in a coupler shown, described and claimed in a certain application for Letters Patent, filed by James M. Scurr and Scott R. Cotton on the 13th day of January, 1892, the serial number of which is 417,993.

Our present invention has for its object the provision of means by which the employment of pivotal extensions or lugs formed or secured to the locking block is dispensed with, and by which the use of special forms of ears or runways for the pivotal lugs or projections is also avoided, the result being a locking block which may be cast with much more readiness and consequent cheapness, and which is also better adapted to withstand strain.

Our invention has for a further object the provision of means by which a locking block cast without lugs or projections may be held in the proper relative positions within the interior of the drawhead, and which in performing its functions as a locking block rotates upon an axis of such relative height as that the locking block cannot become displaced by the numerous blows and jars or other effects brought to bear upon the drawhead, and which is therefore adapted to maintain such a position at all times as to either lock the knuckle or remain in an unlocked position.

Our object consists further in the provision of means by which the resilient member is disposed and housed within the drawhead.

Our invention to this end consists in conjunction with a vertical hinged knuckle having a rearwardly extending impact arm adapted to be engaged and locked by a locking block having a chamfered face adapted to be acted upon by the end of the impact arm of an engaging shoulder adapted to abut and rest against a corresponding stop on the drawhead when the block is in an unlocked position, and a recessed portion on the bottom of the drawhead so constructed with inclined ways as to receive and hold the said locking block in closed or opened position, in each instance said locking block finding a seat so firmly in position as to be incapable of dislodgment by concussions or jarring of the drawhead.

Our invention consists further in a convolute spring surrounding the lower end of the pivotal pin of the knuckle, the under portion of the drawhead in and about said lower end of the pivotal pin of the knuckle, being angularly recessed, within which recess the spring is disposed.

Our invention consists further in certain details of construction and arrangement of parts about to be particularly described, reference being had to the accompanying drawings, in which—

Figure 1 is a face view of the drawhead, partly in section, the vertical knuckle being detached and removed, this view serving more particularly to illustrate the shoulder on the interior of the drawhead. Fig. 2 is a vertical longitudinal sectional view on the line X—X of Fig. 4, the locking block being shown in the position assumed after effecting an uncoupling. Fig. 3 is a like view showing the position assumed by the locking block when a coupling has been effected. Fig. 4 is a horizontal longitudinal section through the drawhead the locking block being removed, and showing in plan the recessed and slotted portion having the inclined ways, within and upon which the locking block rests and moves. Fig. 5 is a like view except that the locking block is shown adjusted in position assumed when the coupling is effected. Fig. 6 is also a like view showing the locking block in the position assumed when an uncoupling is effected. Fig. 7 is a view on the under side of the drawhead, showing the spring adapted to operate the knuckle into an open position and showing the arrangement and disposition of said spring. Fig. 8 is a central cross sectional view the locking block being removed. Fig. 9 is a detail enlarged view of one side of the locking block showing the chamfered face adapted to be acted upon by the impact arm.

Fig. 10 is a view of the opposite side of the locking block. Fig. 11 is a front face or edge view of the locking block. Fig. 12 is a view of the opposite face or edge of the locking block.

The numeral 10 designates the drawhead, such as shown in Fig. 1, having an engaging shoulder or ledge 11, formed within and extended transversely across the interior cavity of said drawhead. The locking block 12 has a shoulder or ledge 13, on its upper edge corresponding to the shoulder 11, which shoulder 13 abuts and rests against the shoulder 11 when said locking block is in an unlocked position and disengaged from the impact arm, as shown in Fig. 2.

Referring to Fig. 4, the bottom of the drawhead is slotted at 14 and also recessed, chambered or hollowed out at 15, the inclined ways 16, 16 and 17, 17, being provided and located on either side of the slotted opening 14. The ways 16, 16, slope forward toward the front end of the drawhead while the ways 17, 17, slope toward the rear. The locking block 12 has formed integrally therewith an actuating lever 18, operated in any well known manner by levers, either from the sides or top of the car, the point of attenuation of said lever from the block providing the shoulders 19, 19, which shoulders rest and ride upon the inclined ways 17, 17. When the locking block 12 is positioned by passing the actuating lever 18 through the slotted opening 14, the said shoulders 19 19 find a seat upon said ways 17, 17, the natural tendency of said block 12 being to slide into the position shown in Fig. 3, by reason of the rearward slope of the ways 17, 17, the rear face 20 of the locking block 12 meeting against the face 21 of the rear of the recessed portion 15. The locking block 12 being in the position adapted to engage the end of the impact arm of the knuckle, as shown in Fig. 3, and in effecting an unlocking of said knuckle the actuating lever 18 being operated forwardly, the shoulders 19, 19 ride upwardly upon the rearwardly inclined ways 17, 17, until the center of gravity of the locking block 12 is reached, when said block drops into the position shown in Fig. 2, heretofore described, the locking block being caused to assume a position to engage and lock by the action of the impact arm upon the chamfered face 21 of said block, causing the block to assume the position shown in Fig. 3.

The inclined ways 16, 16 sloped forward form seats for the locking block when the latter is in its forward and locking position.

The numeral 22, (Fig. 11,) designates the lower end of the pivotal pin of the knuckle 23, about which the spring 24 is coiled, an annular recess 25 being formed in the underside of the drawhead 10, within which recess said spring 24 is disposed, an off set recess 26 is also provided to hold one end of the spring, the other end portion of which extends to and under a hook 27 on the knuckle 24. It will now be observed that the locking block 12 has extending therefrom no lugs or projections which are to become broken off and which render the casting of the parts more difficult and expensive, since the shoulders 19, 19 serve as axes for the locking block in its movement. The arrangement of the inclined ways and the meeting faces provide means by which the locking block is seated firmly and securely in either the locked or unlocking position, and thus the liability to become dislocated by buffing shocks or jarring overcome, and the gravity action of the locking block is assured.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. In a car coupling of the vertical plane type, a locking block having shoulders approximately on its lower portion, a recess formed on the interior and lower side of the drawhead, rearwardly inclined ways upon which said shoulder rests and rides, and a meeting face upon the locking block adapted to abut against a face in the rear of the recess.

2. In a car coupler of the type aforesaid, a locking block having shoulders formed thereon, a recess formed on the interior and lower side of the drawhead, ways upon which said shoulders rest and ride, and forwardly inclined ways adapted to form a seat for the locking block when the latter is in its forward and locking position.

3. In a car coupler of the type aforesaid, a locking block having shoulders formed thereon, a recess formed on the interior and lower side of the drawhead, rearwardly inclined ways upon which the shoulders rest and ride, and forwardly inclined ways adapted to form a seat for the locking block when the latter is in its forward and locking position.

4. In a car coupler of the type aforesaid, a locking block having shoulders formed thereon, a recess formed on the interior and lower side of the drawhead, rearwardly inclined ways upon which the shoulders rest and ride, and forwardly inclined ways adapted to form a seat for the locking block when the latter is in its forward and locking position, and a stop formed on the interior of the drawhead, together with a shoulder formed on the locking block, which shoulder abuts and rests against said stop when the locking block assumes an unlocking position.

In testimony whereof we have hereunto affixed our signatures in the presence of two witnesses.

JAMES M. SCURR.
EUGENE D. WHIPPLE.

Witnesses as to signature of James M. Scurr.
C. C. BULKLEY,
G. R. GREEN.

Witnesses as to signature of Eugene Whipple.
CHARLES C. BULKLEY,
F. C. TATE.