R. E. L. JANNEY.

CAR COUPLING.

APPLICATION FILED APR. 9. 1910.

1,010,056.

Patented Nov. 28, 1911.

3 SHEETS—SHEET 1.

Fig. 4

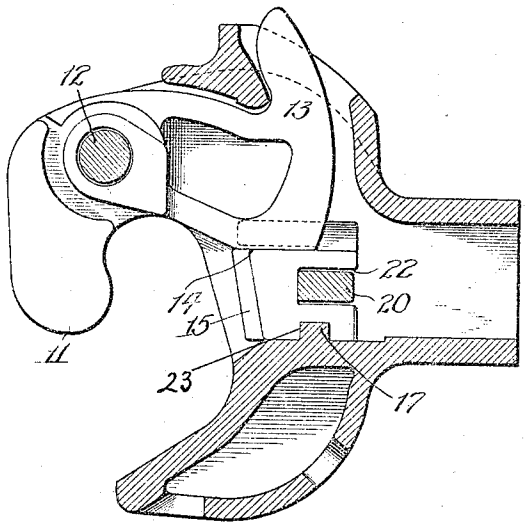
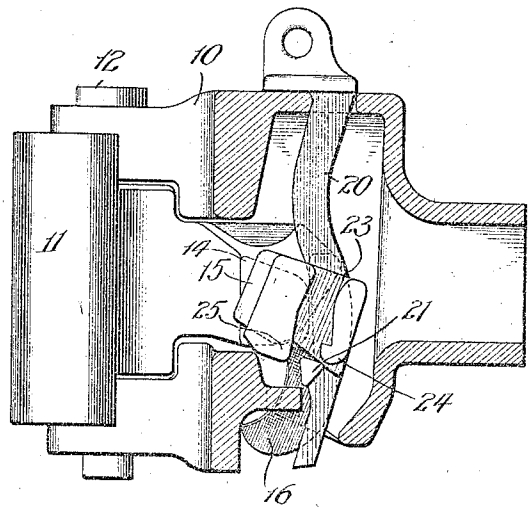


Fig. 1



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3 SHEETS—SHEET 2.

Fig. 2.

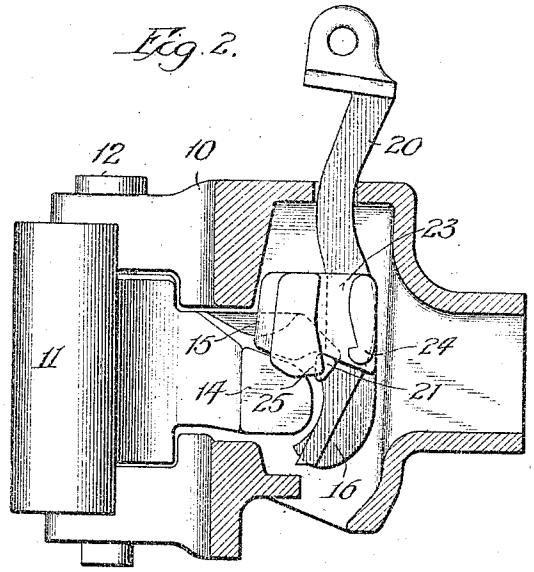


Fig. 7

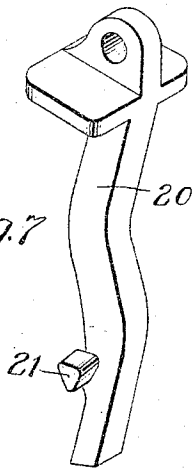
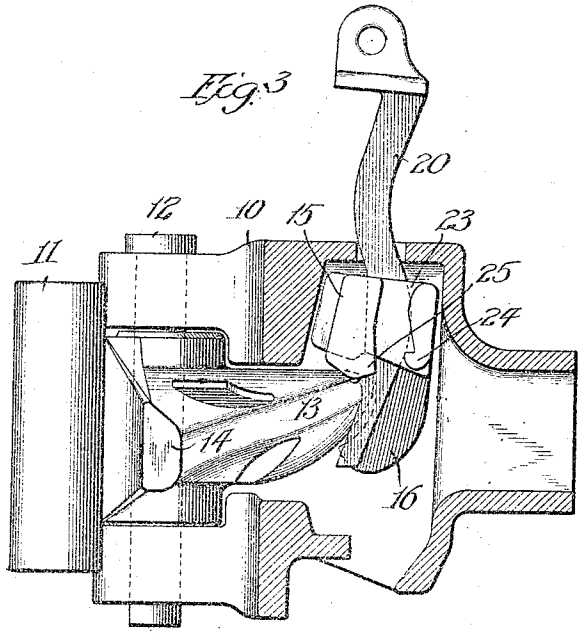


Fig. 3



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3 SHEETS—SHEET 3.

Fig. 5.

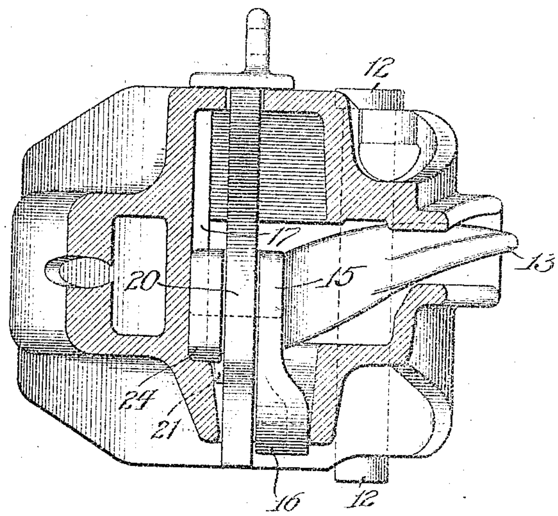
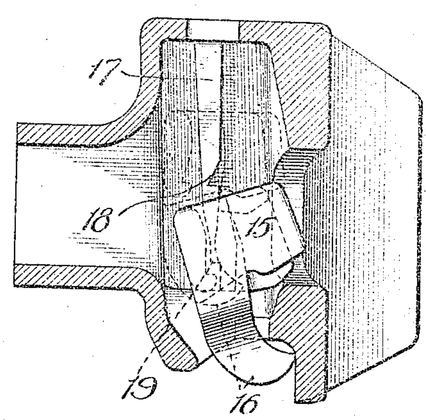


Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT E. L. JANNEY, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN STEEL FOUNDRIES, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

CAR-COUPLING.

1,010,056. Specification of Letters Patent. Patented Nov. 28, 1911.

Application filed April 9, 1910. Serial No. 554,499.

To all whom it may concern:

Be it known that I, ROBERT E. L. JANNEY, of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to car couplers of the Janney type and has particular reference to a car coupler provided with a coupler head, a pivoted knuckle and combined lock and knuckler opener having lock setting and anti-creeping means coöperating directly therewith, and a lifter for said lock, said lifter being adapted to return to its normal unexposed position after the lock has been lifted.

My invention will be more readily understood by reference to the accompanying drawings, wherein;

Figure 1 is a sectional elevation of a coupler constructed in accordance with my invention; Fig. 2 is a similar view showing the lock raised to free the knuckle and in a position where it is adapted to rest in a lock set notch (not shown); Fig. 3 is a similar view showing the combined lock and opener fully raised and the knuckle thrown open thereby; Fig. 4 is a horizontal section of the coupler; Fig. 5 is a sectional rear end elevation; Fig. 6 is a sectional elevation showing the lock and knuckle opener in the normal locking position and showing, in dotted lines, the lock resting in the lock set notch, and Fig. 7 is a perspective view of the lifter of my invention.

Referring now more particularly to the drawings, it will be seen that the coupler head, 10, is provided with a pivoted knuckle, 11, and a knuckle pin 12. The rear of the pivoted knuckle has a tail, 13, and a locking face, 14. Within the coupler head is mounted a locking block, 15, having a knuckle opener, 16, integral therewith. This locking block is adapted for vertical and swinging motion upon the vertical rib, 17, which is provided with a lock set notch, 18, and an anti-creeping projection or end, 19. A lifter, 20, coöperates with the locking block, 15, and a lug, 21, thereon, (best shown in Fig. 1) is adapted to contact the lower surface of the locking block to lift the same. The locking block, 15, is provided with a recess, 22, within which the lifter, 20, is guided. One side of the lock, 15, has a vertical groove, 23, by means of which the lock is guided upon the rib, 17. An anti-creeping hook or ledge, 24, is provided on the lock, this hook facing inwardly of the groove, 23. The opposite lower corner, 25, of the block, 15, is pointed and the lock so shaped at that point that this portion, 25, will fit within the notch, 18, on the rib, 17, when the lock is raised.

The operation of my improved coupler may be described as follows: As shown in Figs. 1 and 6, when the combined locking block and opener is in the normal locked position, that is, the lock portion, 15, resting between the locking face, 14, of the knuckle tail and the inside wall of the coupler head, the hook, 24, of the locking block rests beneath the point or ledge, 19, of the rib, 17, and any creeping of the lock is prevented. As will be understood, the creeping or working up of the lock occurs from the front, that is, the lock is inclined to work up in a vertical direction along the locking face of the knuckle tail. In order therefore, to free the lock from this anti-creeping provision, it is lifted by the projection, 21, on the lifter, 20, from the rear of the center of gravity of the said lock and knuckle opener, the first motion being a swing or oscillation, which will move the hook, 24, from beneath the ledge, 19. As the upward movement of the lifter and block is continued, guided by the rib, 17, the lock is finally raised above the locking face of the knuckle to a point where the ledge, 25, is opposite the notch, 18, in the vertical rib, 17. As the lock is still being lifted from a point in the rear of its center of gravity, the ledge, 25, will fall within the notch, 18, and the lock will remain suspended at this point, the lifter upon being replaced, returning to its normal unexposed position. The knuckle may then be swung open, either by hand or by the parting of two coupled cars, and as soon as the knuckle begins to open, the upper surface of the knuckle tail contacting the lower edge of the locking block, 15, will raise the same and release it from the lock set notch, 18, the lock thereafter being carried on the tail of the knuckle until such time as the knuckle is closed, when the lock will fall by gravity to its original position, as shown in Fig. 1. If it is desired to throw the knuckle, the lifting movement described above is continued until the ledge, 25, has passed the

notch, 18, when the knuckle opener, 16, will contact the cam surface on the under side of the knuckle tail and force the knuckle open, as shown in Fig. 3. Upon being released, the lifter will drop to the position shown in Fig. 1, the lock meanwhile being carried upon the tail of the knuckle.

As will be seen, I have provided in this construction, a one-piece lock and knuckle opener having lock setting and anti-creeping means coöperating directly therewith and a lifter of convenient form. I prefer to employ a lifter such as shown in the drawings, although a chain or links may be used, and as various other modifications will readily suggest themselves to one skilled in the art, I do not limit myself to the precise construction shown in the drawings.

I claim:

1. A coupler comprising, in combination, a coupler head having a vertical rib therein, a pivoted knuckle and a combined locking-block and knuckle opener, said locking-block and said rib having coöperating anti-creeping and lock-setting means directly associated therewith, substantially as described.

2. A coupler of the class described, comprising a coupler head and pivoted knuckle, an integral locking block and knuckle opener provided with a lock-setting shoulder and an anti-creeping hook, a vertical rib on the inside wall of said coupler head and provided with a lock set notch and an anti-creeping ledge, substantially as described.

3. A coupler of the class described, comprising, in combinaiton, a coupler head and a knuckle pivoted therein, a vertical rib within said coupler head, said rib being provided with a lock-set notch, a block for locking said knuckle in closed position, said lock being adapted for vertical movement on said rib, said block being provided with a groove on one side thereof and with an anti-creeping projection adapted for coöperation with the lower portion of the vertical rib in said coupler head, substantially as described.

4. A combined locking and opening piece for car couplers, comprising a body portion and a toe portion, said body portion having a groove by means of which it is guided in its vertical movement, a lock-setting projection and an anti-creeping hook, said hook projecting into the plane of said groove, said hook and said lock-setting projection being also formed on said body portion, substantially as described.

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