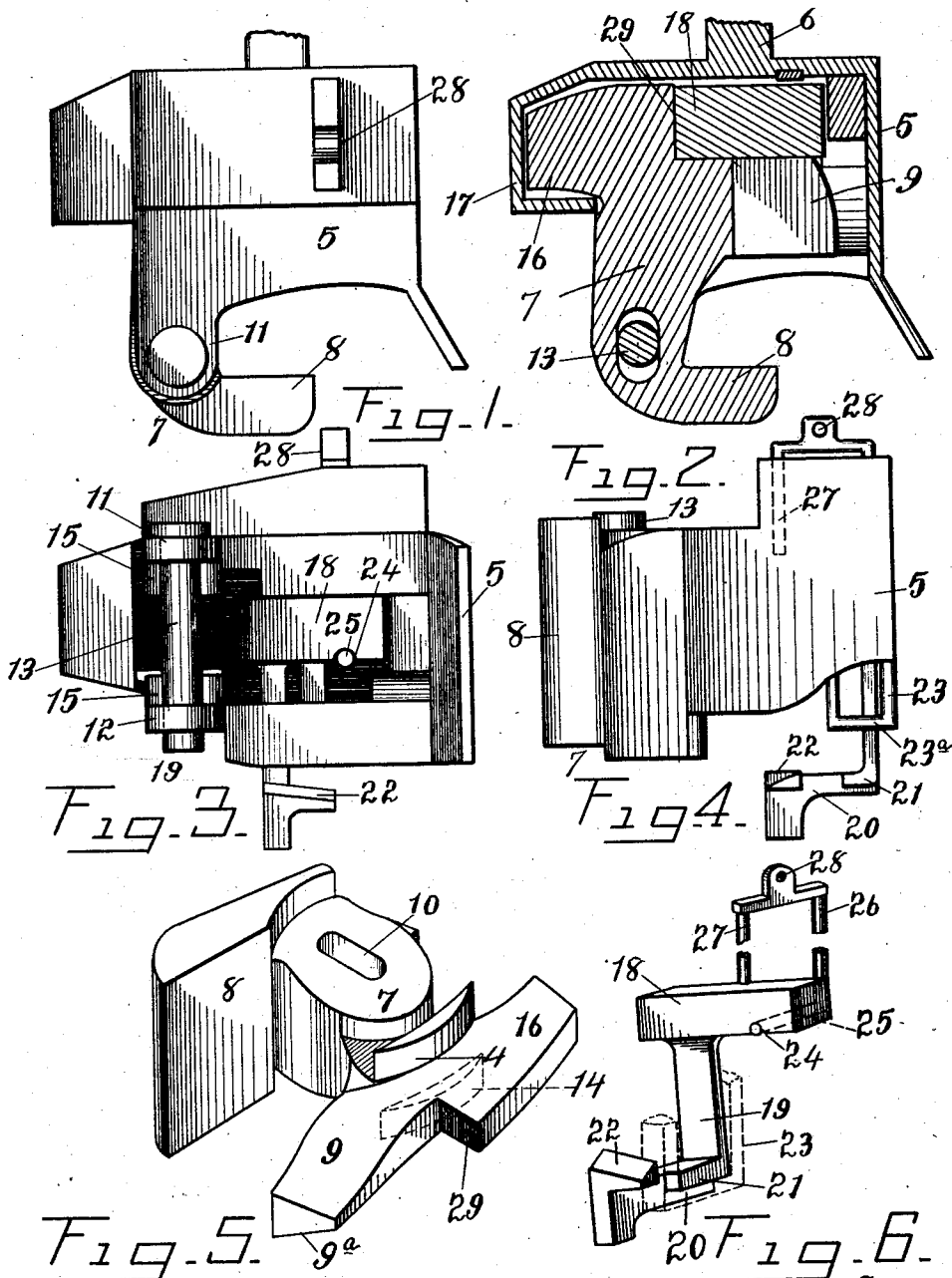


W. H. SIMONS.
CAR COUPLING.
APPLICATION FILED NOV. 25, 1910.

1,011,505.

Patented Dec. 12, 1911.

2 SHEETS-SHEET 1.



Witnesses
Clayton L. Durr.
Anna Murray.

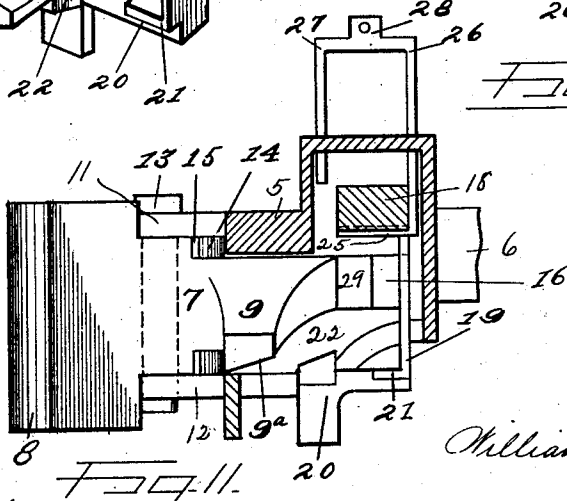
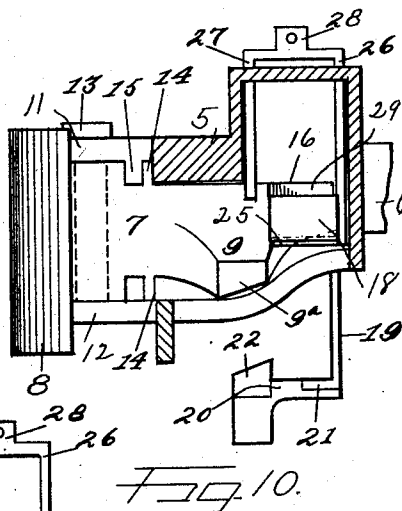
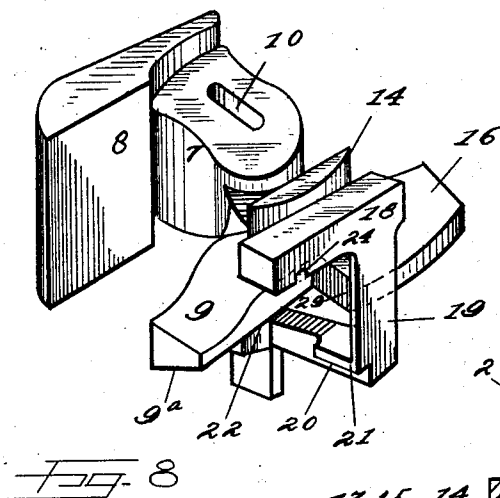
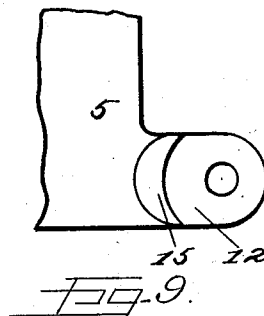
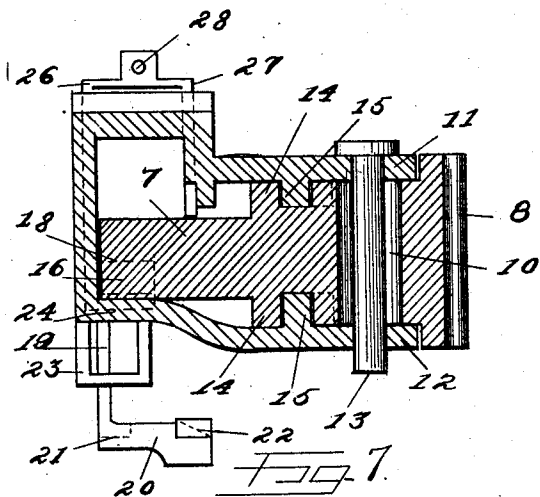
Inventor
William H. Simons
by Chester C. Shepherd
Attorney

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2 SHEETS—SHEET 2.



Witnesses
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Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM H. SIMONS, OF COLUMBUS, OHIO, ASSIGNOR OF FIFTY-ONE ONE-HUNDREDTHS
TO W. H. LITCHFORD, OF COLUMBUS, OHIO.

CAR-COUPLING.

1,011,505.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed November 25, 1910. Serial No. 594,060.

To all whom it may concern:

Be it known that I, WILLIAM H. SIMONS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

This invention relates to car couplers and has for its object the provision of a device of this character of the Janney type in which a vertically movable locking pin is provided with means for holding it in its elevated position, with means for dislodging it and permitting it to drop when the knuckle moves to its closed position, and with means for engaging the knuckle and throwing said knuckle to its open position when said locking pin is elevated.

Further objects and advantages of the invention will be set forth in the detailed description which now follows:

In the accompanying drawing, Figure 1 is a plan view of a coupler constructed in accordance with the invention, Fig. 2 is a horizontal section thereof, Fig. 3 is a front face view of the coupler with the knuckle removed, but with the pivot pin in position, Fig. 4 is a side elevation of the coupler, Fig. 5 is a detail perspective view of the knuckle, Fig. 6 is a detail view of a locking pin hereinafter described, Fig. 7 is a longitudinal vertical section through the pivot pin, Fig. 8 is a detail perspective view illustrating the assembled relation of the knuckle and locking members, Fig. 9 is a detail view illustrating the upper face of the lower ear of the coupler head, Fig. 10 is a longitudinal sectional view illustrating the parts in their closed position, and Fig. 11 is a like view, with the parts in open position.

Like numerals designate corresponding parts in all of the figures of the drawing.

Referring to the drawing, the numeral 5 designates the coupler head supported upon a draw bar 6. A knuckle 7 having the locking extension 8 and tail 9 is provided with an elongated opening 10 and fixed between ears 11 and 12. A pivot pin 13 passes through these ears and through the opening 10, this pivot pin however, merely serving as a point upon which the knuckle swings, the strain being taken by curved ribs 14. These ribs are carried by the knuckle (see Fig. 3) and engage behind corresponding ribs 15 of the coupler head when

the knuckle is swung to the position illustrated in Fig. 2. In addition to the ribs 14, the knuckle is provided with an extension 16 that swings around into a housing extension 17 of the coupler head. The locking mechanism comprises a locking block 18. A downward extension 19 of this locking block carries a forwardly extending portion 20 having formed thereon, a supporting lug 21 and a knuckle actuating cam 22. The coupler head 5 carries a stirrup 23 (see Figs. 4 and 6). The underside of the block 18 is transversely grooved at 24 for the reception of a horizontal extension 25 of a yoke 26. The forward member 27 of this yoke slides in the coupler head and acts merely as a guide to hold the part 25 in alinement with the transverse groove 24 of block 18.

It will be understood that the usual actuating chain will be attached to the eyelet 28 of the yoke 26, so that when this yoke is pulled sharply upward, the block 18 will also be lifted. When this block is lifted, it moves upwardly from behind a shoulder 29 of the knuckle (see Figs. 2, 5 and 8) and permits the knuckle to swing to its open position. The movement of the knuckle to its open position is achieved by the cam member 22 engaging with the inclined face 9^a of tail 9 of the knuckle. This engagement occurs after the block 18 has been moved upwardly until it clears the shoulder 29, and this engagement of the cam with the inclined face 9^a of the tail, throws the knuckle to its open position. Since the member 25 (see Fig. 6) loosely engages in the groove 24 and since its engagement is at one side of the center of the block 18, it follows that when the block is elevated, its lower portion or that portion carrying the lug 21, tends to swing toward the stirrup 23 and as soon as the lug 21 clears the horizontal portion of the stirrup, said lug swings in over the horizontal portion of the stirrup, and when the brakeman releases the operating mechanism to permit the yoke 26 to move downwardly, the block 18 remains in its elevated position, being held up by the engagement of the lug 21 with the horizontal bar 23^a of stirrup 23. Then when the knuckle moves to its closed position, the block 18 is lying in such an inclined position that its lower left hand corner (see Fig. 3) lies partly in the path of movement of the

upper face of the extension 16 (see Fig. 5). As the knuckle swings around to the position shown in Fig. 2, the upper face of the extension 16 engages the underface of block 18 and slightly raises said block, swinging the lug 21 out of engagement with the stirrup. After the extension 16 clears the block, the block drops in behind the shoulder 29 to lock the knuckle in its closed position.

10 From the foregoing description, it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to 15 serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview, such changes as may be made within 20 the scope of the appended claim.

Having described my invention, what I claim is:

25 In a device of the character described, the combination with a coupler head, of a knuckle pivotally mounted therein, a transversely extending tail formed upon said knuckle, a cam surface formed upon said tail, a ver-

tically movable locking member comprising a block, a shoulder formed upon said knuckle behind which said block lies when in its lowermost position, a lug upon said locking member, a stirrup depending from the underside of the coupler head with which said lug is adapted to be engaged when moved laterally to thereby hold the locking member in its elevated position, a cam upon said locking member adapted to engage the cam surface of the tail of the knuckle to throw the knuckle to its open position, when said locking member is moved upwardly, a vertically movable member loosely engaging the locking member, said vertically movable member comprising a yoke, and a horizontal extension upon said yoke, said horizontal extension engaging in a groove formed upon the underside of said block at one side of the center of said block. 30 35 40 45

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. SIMONS.

Witnesses:

JOSEPH P. EAGLESON,
C. C. SHEPHERD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."