

No. 776,031.

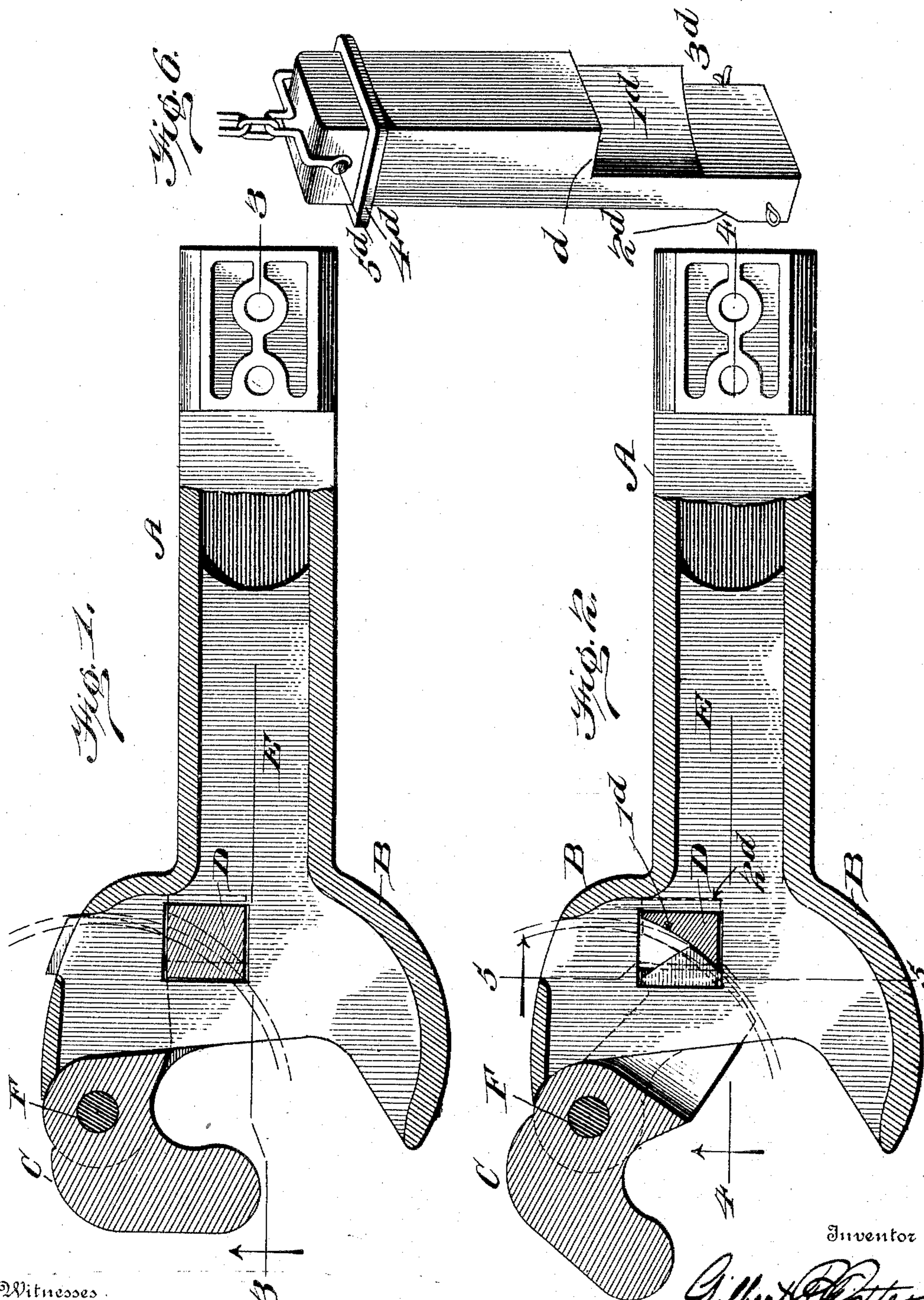
PATENTED NOV. 29, 1904.

G. P. RITTER.
CAR COUPLING.

APPLICATION FILED AUG. 12, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

W. S. Scherick
Wm. O. Dwyer

Inventor

Gilbert P. Ritter

No. 776,031.

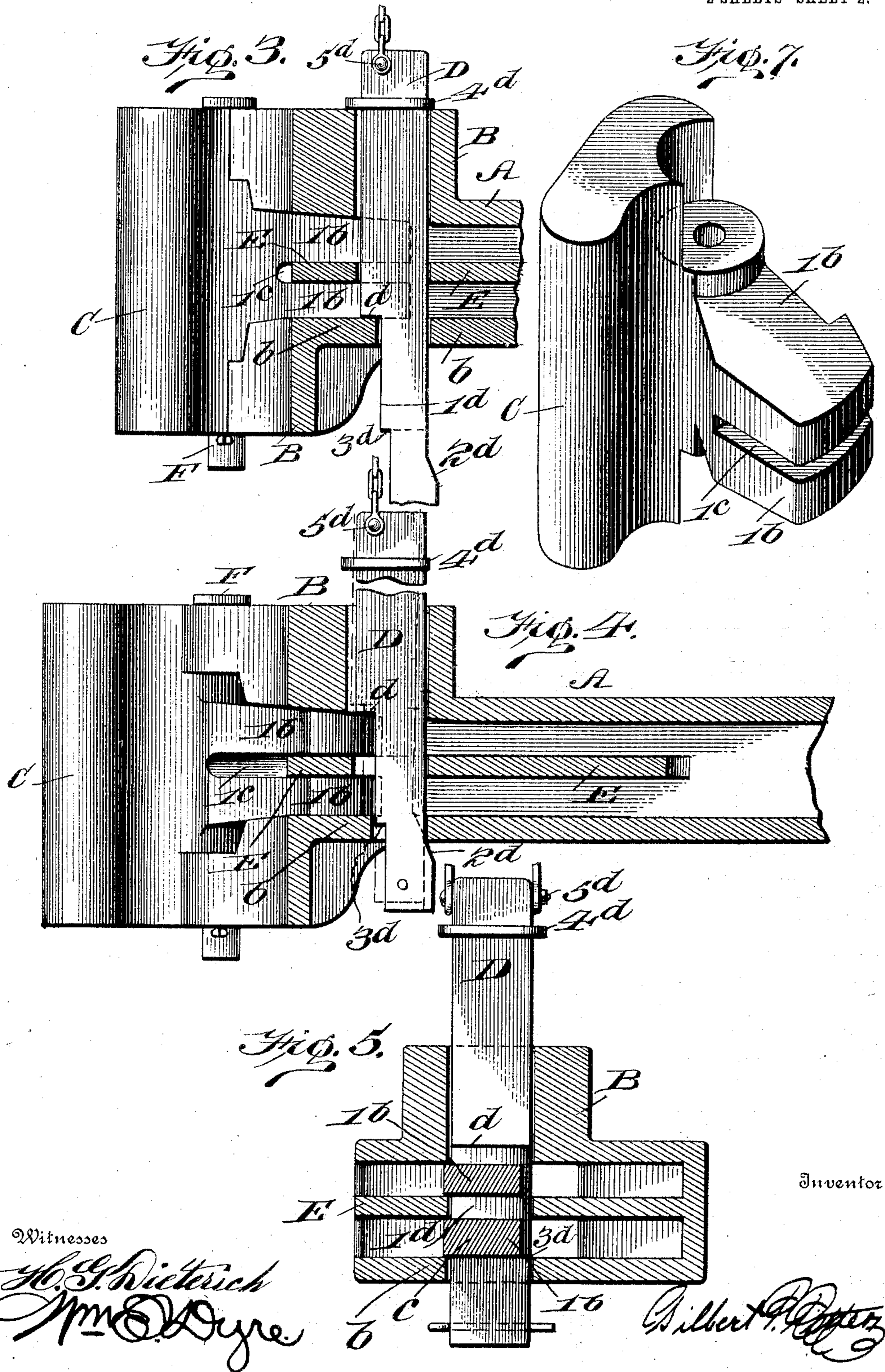
PATENTED NOV. 29, 1904.

G. P. RITTER.
CAR COUPLING.

APPLICATION FILED AUG. 12, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

GILBERT P. RITTER, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 776,031, dated November 29, 1904.

Application filed August 12, 1902. Serial No. 119,419. (No model.)

To all whom it may concern:

Be it known that I, GILBERT P. RITTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Couplers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a horizontal central section of a coupler embodying my invention, the knuckle being in its locked position. Fig. 2 is a horizontal central section of the coupler, the knuckle and lock being shown in their relative positions at the instant the lock is forced off its seat upon the bottom wall of the coupler and rides upon the tail of the knuckle. Fig. 3 is a section on the line 3 3, Fig. 1. Fig. 4 is a section on the line 4 4, Fig. 2, the dotted lines showing the position of the lock when set to uncouple. Fig. 5 is a section on the line 5 5, Fig. 2, the lock resting on the bottom wall of the coupler-head. Fig. 6 is a perspective view of the coupler-lock, and Fig. 7 is a perspective view of the knuckle.

Like symbols refer to like parts wherever they occur.

My invention relates to certain improvements in vertical-plane car-couplers, and has for its object to provide means for strengthening the shank of the coupler and for supporting the lock against lateral thrust.

A further object of my invention has reference to a unitary lock and lock-set for retaining the lock in its unlocked position.

The main feature of my invention resides in providing a unitary lock and lock-set comprised of a gravity-lock having an overhang to rest upon the tail of the knuckle and in conjunction therewith a cam-face and inclined projection below the same whereby the lock is held in its unlocked position until dropped upon the tail of the knuckle in the opening thereof, thus allowing an automatic coupling upon the retreat of the knuckle to its locked position.

There are other minor features of invention and combinations in elemental construction, all as will hereinafter more fully appear.

I will now proceed to describe my invention

more fully, so that others skilled in the art to which it appertains may apply the same.

In the construction chosen for the purpose of illustrating my invention, A is the shank, and B the head, of a coupler to which is pivoted by the pin F the knuckle C. Beginning at any desired distance from the rear end, the shank A is provided on its interior with horizontal reinforcing-flanges extending inwardly from the walls of the coupler-shank, by choice uniting to form the web E, which extend far enough forward into the head to support the locking-pin D against lateral thrust. The tail of the knuckle C is slotted or divided, as at 1^c, to form independent tail extensions 1^b 1^b, thereby allowing the knuckle to clear the web E. In other respects the knuckle may be as shown or of any approved construction.

The lock or locking-pin D is provided with an extension having an inclined or cam face 1^d substantially parallel to the line of motion of the lock and above which is the shoulder or overhang α , a rearwardly and downwardly sloping portion 2^d opposite thereto, and a shoulder 3^d, which rests upon the bottom wall b of the head B when the lock is set for uncoupling and before the shoulder or overhang α is dropped upon the tail of the knuckle by the outward movement thereof.

The top of the lock or locking-pin D is provided with a limit-collar 4^d, which rests upon the upper wall of the coupler-head when in a locked position, and with a lock-lifting attachment which is pivoted eccentrically of the locking-pin, as at 5^d, thus insuring the engagement of the shoulder 3^d with the bottom wall b of the coupler-head after the lock has been projected forward by the action of the incline 2^d when the lock is raised.

The construction being substantially such as herein pointed out, the operation will be as follows: The knuckle being in its locked position and the lock down, as shown in Figs. 1 and 3, the coupler may be opened by raising the lock D through the agency of the lock-lifting connection 5^d, whereupon the inclined face 2^d causes the shoulder 3^d to be forced over the bottom wall b of the coupler-head, and upon releasing the pull upon the lock-lifting mechanism the shoulder 3^d seats itself

upon the said bottom wall *b*, as shown in dotted lines, Fig. 4, and in position shown in Fig. 5, thus retaining the overhang or shoulder *d* of the lock D in an elevated position 5 above the level of the tail of the knuckle and allowing said knuckle to be opened. The tail of the knuckle C in its outward movement at any desired point (see Figs. 2 and 4) acts upon the cam-face 1^d of the locking-pin D, thus 10 forcing the shoulder 3^d off its seat upon the bottom wall *b* of the coupler and allowing the pin to drop and the overhang or shoulder *d* of the lock to rest and ride upon the tail of the knuckle until such time as the knuckle is 15 again fully forced back to its locked position, which thus withdraws the support of the knuckle-tail from the shoulder *d* of the locking-pin, allowing the lock D to fall into the locked position. (Shown in Figs. 1 and 3.)

20 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupler, the combination with a knuckle and a lock therefor, of a horizontal 25 web interposed between the top and bottom walls of the coupler-head and supporting said lock against lateral thrust, substantially as and for the purposes specified.

2. In a car-coupler, the combination with a 30 knuckle having a divided tailpiece and a lock

therefor, of a web interposed between the top and bottom walls of the shank of the coupler and adapted to reinforce the shank back of the coupler-head, substantially as and for the purposes specified.

3. In a car-coupler, the combination with a 35 pivoted knuckle, of a gravity-lock having an inclined projection on its rear face and a shoulder on its front face above the inclined projection, said inclined projection adapted to 40 engage the coupler-head to cause a lateral movement of said lock, whereby the said lock assumes an unlocked position, substantially as and for the purposes specified.

4. In a car-coupler, the combination with a 45 pivoted knuckle, of a gravity-lock having an inclined projection on its rear face, a shoulder on its front face above the inclined projection and adapted to support the lock in an unlocked position, and an overhang above 50 said shoulder adapted to be seated on the tail of the knuckle, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 12th day of 55 August, 1902.

GILBERT P. RITTER.

Witnesses:

J. JEROME LIGHTFOOT,
WALLACE GREENE.