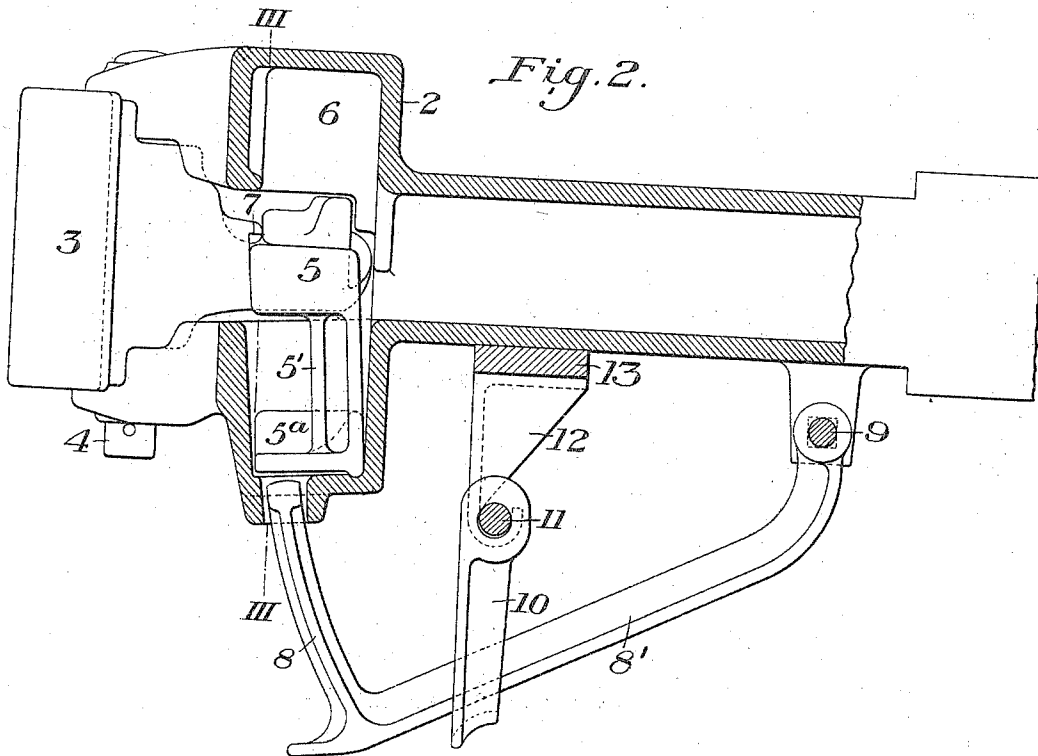
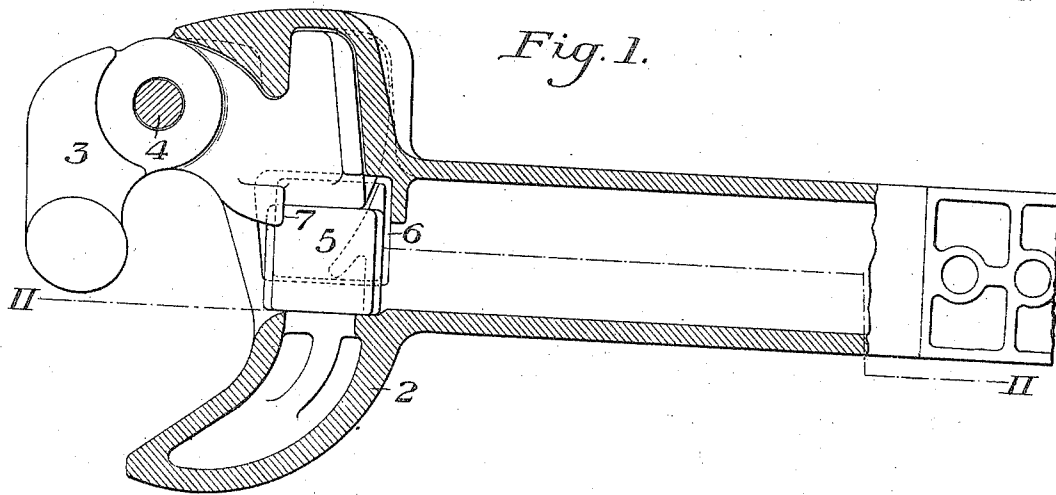


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CAR COUPLING.
APPLICATION FILED JAN. 30, 1908.

Patented Jan. 25, 1910.
4 SHEETS—SHEET 1.



WITNESSES

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Fig. 3.

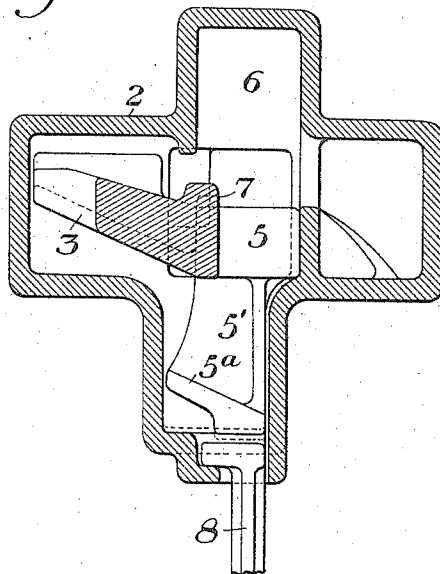
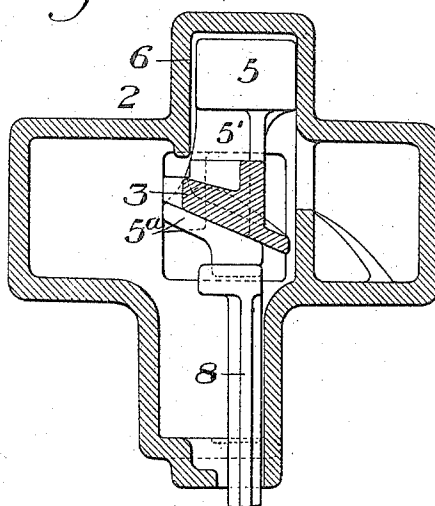


Fig. 6.



WITNESSES

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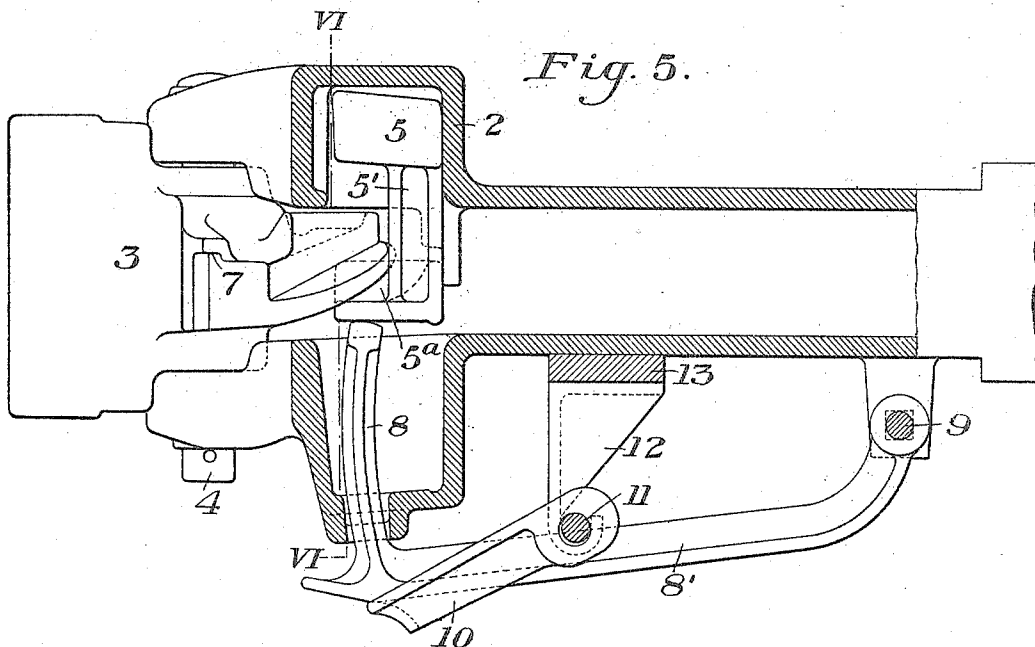
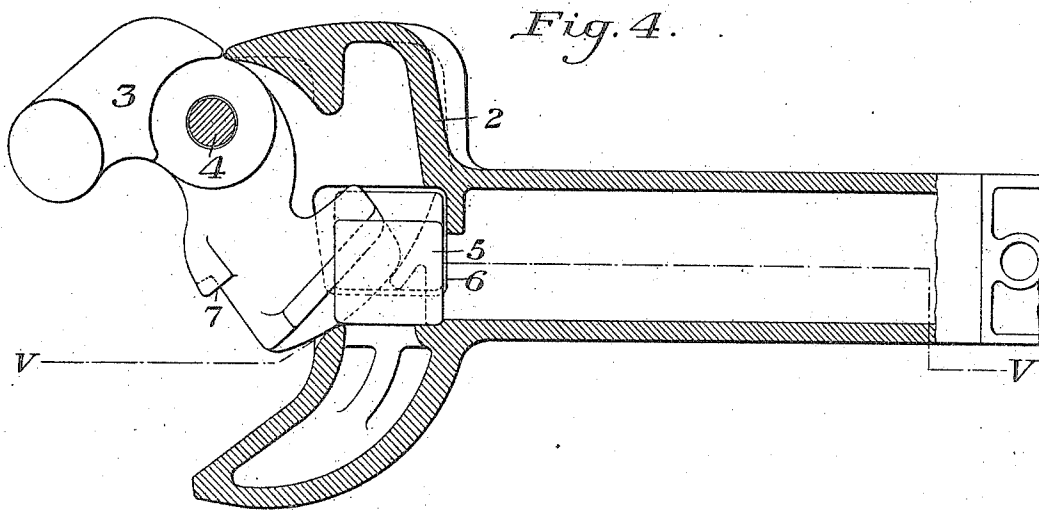
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4 SHEETS—SHEET 3.



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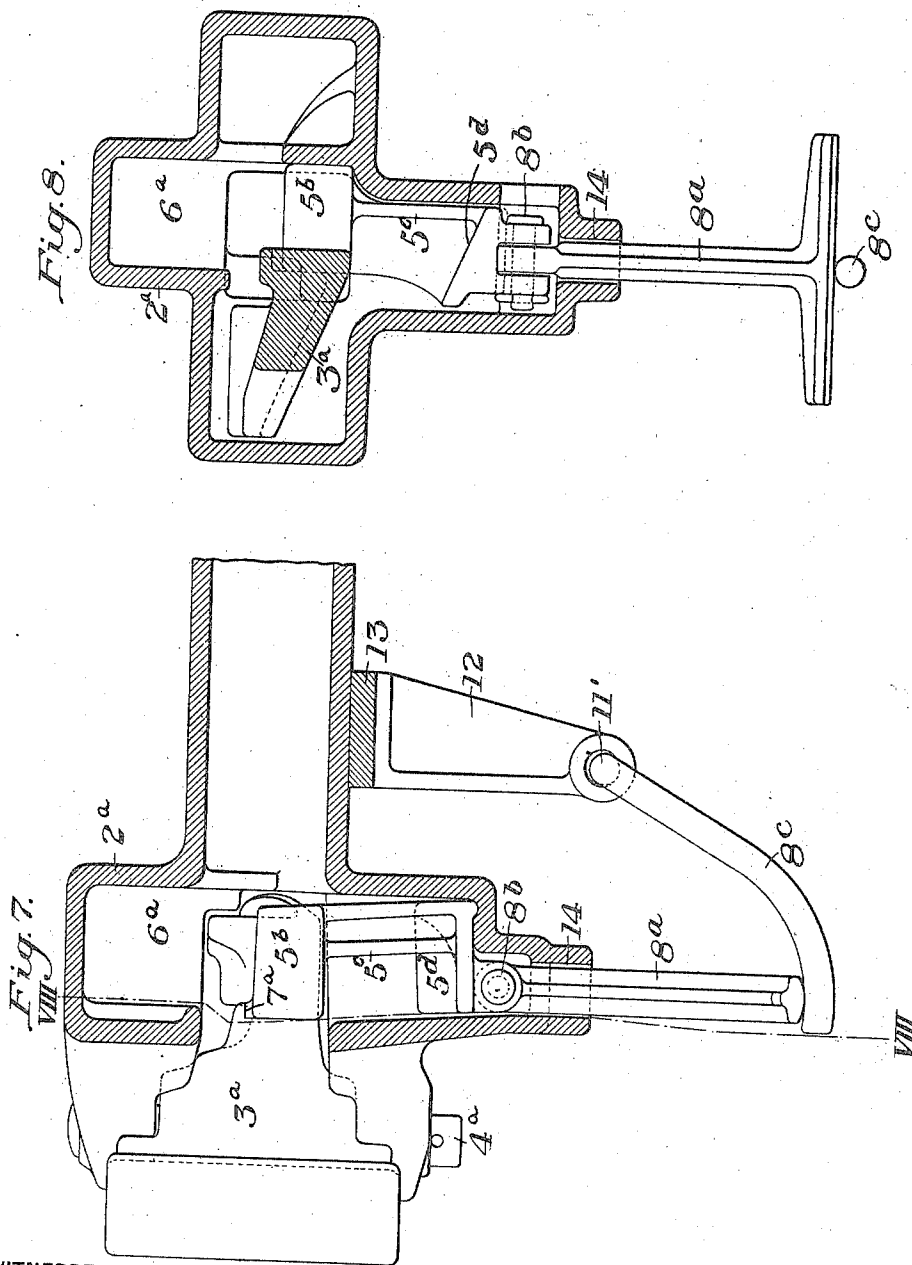
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4 SHEETS—SHEET 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

CLINTON A. TOWER, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

CAR-COUPLING.

947,745.

Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed January 30, 1908. Serial No. 413,408.

To all whom it may concern:

Be it known that I, CLINTON A. TOWER, of Cleveland, Cuyahoga county, Ohio, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows my improved coupler in horizontal longitudinal section, the knuckle being closed and locked; Fig. 2 is a vertical longitudinal section on the line II—II of Fig. 1; Fig. 3 is a vertical cross section on the line III—III of Fig. 2; Fig. 4 is a section similar to Fig. 1, but showing the knuckle open; Fig. 5 is a vertical longitudinal section on the line V—V of Fig. 4; Fig. 6 is a vertical cross section on the line VI—VI of Fig. 5; Fig. 7 is a partial longitudinal vertical section showing a modified construction of the lock and opening device; and Fig. 8 is a vertical cross section on the line VIII—VIII of Fig. 7.

In the drawings, 2 represents the coupler head, and 3 the horizontal swinging knuckle which is pivoted on a vertical axis 4 and may be of ordinary construction. Within the coupler head is a locking member having a locking head 5 mounted in a vertical recess 6 so as to be movable upwardly and downwardly; and when in its lowest position it fits in front of and locks the knuckle, a downward extension 5' of the lock having a toe at its rear corner resting on the base of the recess in the coupler head, and when in that position the lock preferably fits under a shoulder 7 on the coupler knuckle which locks the lock and prevents it from creeping upwardly. The lock is moved vertically by means of a lifting arm 8 which extends upwardly through the floor of the coupler, and is actuated, preferably, by being formed integral with the lever 8' which is pivoted to the shank of the draw-bar at 9 and is actuated by a lifting yoke 10 mounted on a rock shaft 11 which is pivoted to a bracket 12, preferably depending from the carry iron 13, so that when the shaft 11 is rocked, it will raise the lever 8', causing the lifting arm to rise and to engage the lock and move it upwardly the lock being first tilted backwardly so as to clear the shoulder 7 and then raised. This tilting takes place on the fulcrum afforded by the downward projec-

tion or seat at the rear corner of the extension 5', upon which the lock tilts forwardly to lock the lock from creeping, as above described, and also tilts rearwardly to free the lock at the beginning of its lifting motion.

When the coupler is to be provided with knuckle-opening means I prefer to form, at the lower end of the portion 5' of the lock, an opening cam or inclined surface 5^a which, when the lock is raised, will engage an incline at the rear of the knuckle tail and will push the tail open. It will thus be seen that the locking member is an independent device mounted within the coupler-head, not pivoted, and adapted to be moved by the lifting lever and lifting arm.

In Figs. 7 and 8 I show a modified construction of my invention. 2^a is the coupler head, 3^a is the knuckle, 4^a is the vertical axis or pivot pin, 5^b is the locking member, 6^a is the vertical recess above described, 7^a is the shoulder on the coupler knuckle under which the lock preferably fits and which serves to lock the lock and prevent it from creeping upwardly as fully described in the foregoing part of this specification. At the end of the lower portion 5^c of the lock is the opening cam or inclined surface 5^d which is the same in construction and in function as the portion 5^a shown in Figs. 1, 2, 3, 4 and 5. The lifting arm is designated as 8^a and is pivoted at 8^b to the lower end of the locking and opening member and extends downwardly through a guiding passage 14 in the floor of the coupler, resting upon a lever 8^c, which may be constituted by bending the end of the ordinary uncoupling rod 11'. By rocking this uncoupling rod the lever 8^c is raised and the lock pushed upwardly through the downwardly depending arm 8^a. This arm is preferably made of T form, having a widened lower end, as shown in Fig. 8, so that it will at all times keep in operative engagement with the lever 8^c.

Other modifications in my device may be made by those skilled in the art, since

What I claim is:

1. A coupler having a knuckle and a lock, the lock having at its rear edge a bearing on the coupler arranged to tilt the lock forwardly, the knuckle having a shoulder on the front face of its tail arranged to receive beneath it a portion at the front of the lock when tilted on said seat substantially as described.

2. A coupler having a knuckle and a lock, the lock having at its rear edge a portion bearing on the coupler arranged to tilt the lock forwardly, the knuckle having a shoulder to receive a portion at the front of the lock when it is tilted on said shoulder, and a lifting device extending from below and adapted to tilt the lock rearwardly to free it

from said shoulder and to lift it, substantially as described.

In testimony whereof, I have hereunto set my hand. 10

CLINTON A. TOWER.

Witnesses:

HARRY E. ORR,
CHAS. E. POPE.