

(No Model.)

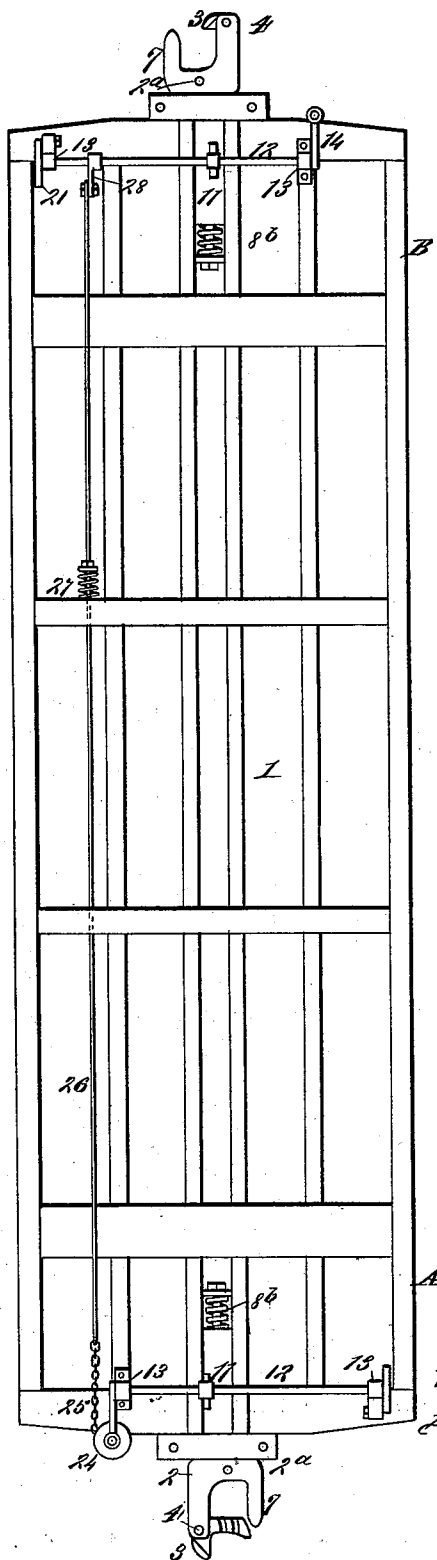
4 Sheets—Sheet 1.

W. FAULHABER.
CAR COUPLING.

No. 507,896.

Patented Oct. 31, 1893.

Fig. I.



Attest:
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(No Model.)

4 Sheets—Sheet 2.

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Fig. II.

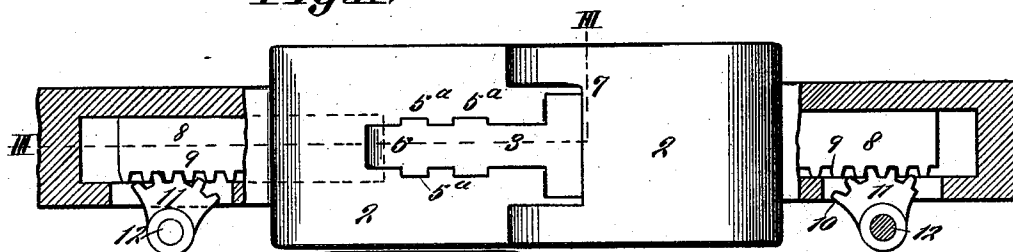


Fig. III.

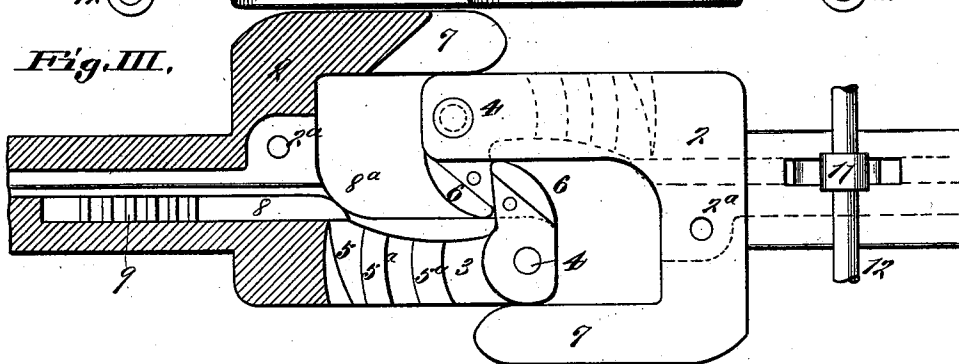


Fig. VI.

Fig. IV.

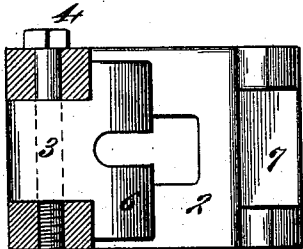


Fig. V.

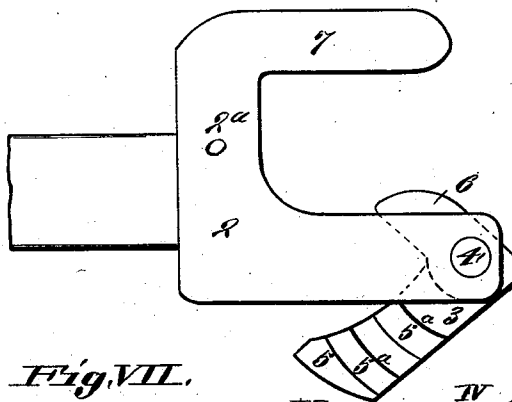
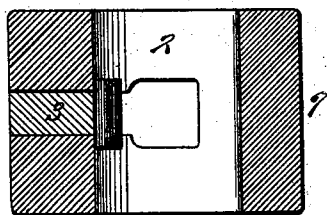
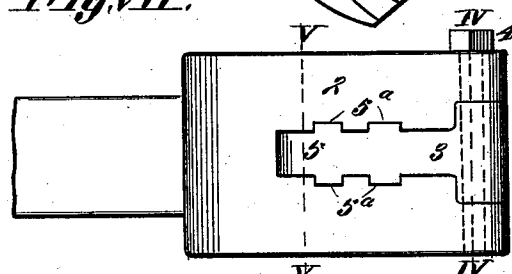


Fig. VII.



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Patented Oct. 31, 1893.

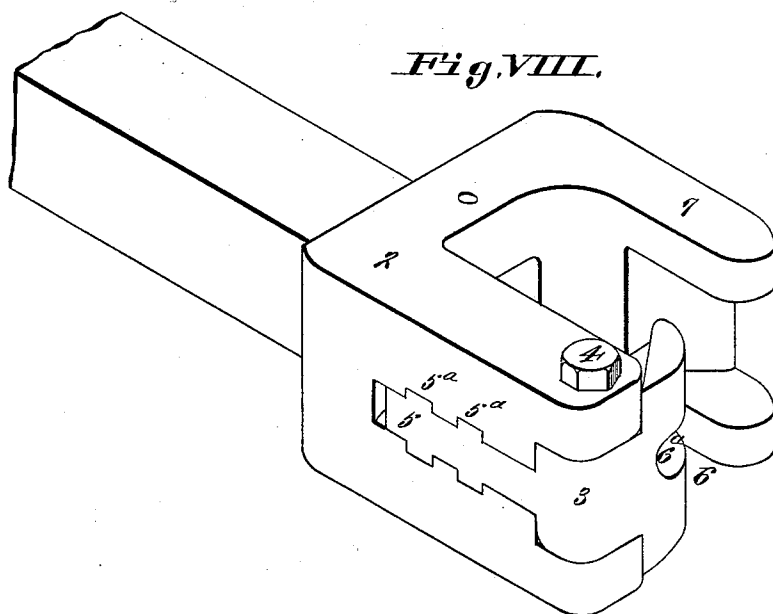
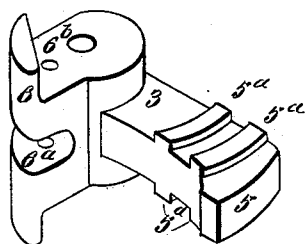


Fig. IX



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Patented Oct. 31, 1893.

Fig. X.

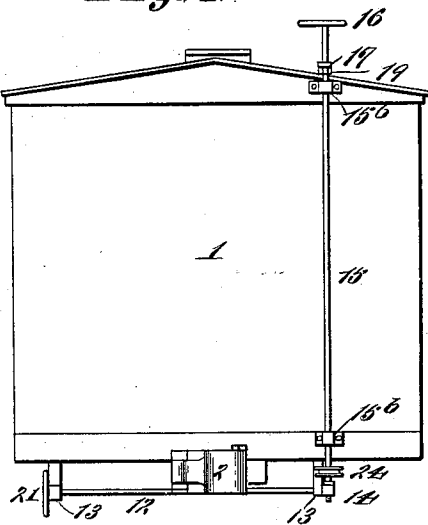


Fig. XI.

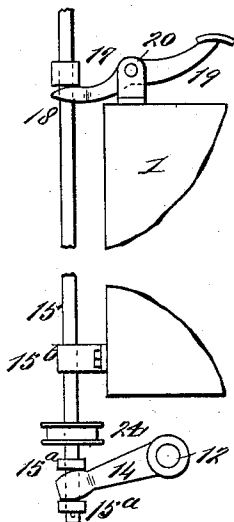


Fig. XII.

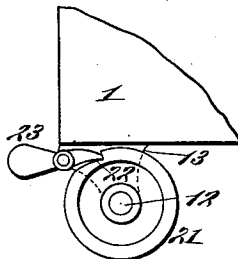
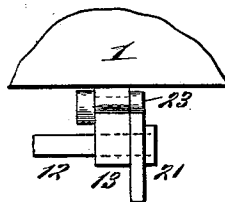


Fig. XIII.



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UNITED STATES PATENT OFFICE.

WILLIAM FAULHABER, OF ST. LOUIS, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 507,896, dated October 31, 1893.

Application filed July 3, 1893. Serial No. 479,526. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FAULHABER, of the city of St. Louis, in the State of Missouri, have invented a certain 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.

My invention relates to that class of car couplings, known as automatic car couplings, and wherein pivoted jaws are employed to form the means of locking; and my invention consists in features of novelty hereinafter fully described and pointed out in the claims.

Figure I is a plan, looking at the under side of a car, equipped with my improved coupling. Fig. II is a view of the coupling, part in side elevation, and part in vertical, longitudinal section. Fig. III is a view, a portion of which is in plan, and the remainder a horizontal, longitudinal section, taken on line III—III, Fig. II. Fig. IV is a vertical, transverse section, taken on line IV—IV, Fig. VII. Fig. V is a vertical, transverse section, taken on line V—V, Fig. VII. Fig. VI is a top view of the draw-head and jaw, showing the jaw open. Fig. VII is a side elevation of the draw-head and jaw. Fig. VIII is a perspective view of one of the draw-heads and jaws. Fig. IX is a perspective view of the coupling jaw, removed from the draw-head. Fig. X is an end elevation of a car, showing the operating mechanism of the coupling attached thereto. Fig. XI is an elevation, illustrating in detail the operating mechanism of the jaw retaining bar. Fig. XII is a detail elevation, illustrating the lower hand-wheel, and its gravity pawl. Fig. XIII is a detail view of the lower hand wheel, looking at the edge of same, and showing its connection with the retaining bar operating rod.

Referring to the drawings, 1 represents a car to which my improved coupling is shown connected.

2 is the draw-head, and 3 the jaw pivoted to one side of the draw-head by a pin 4, screwed into the lower portion of the draw-head. The jaw is made with an inner portion, forming a heel 5, and an outer portion

forming a knuckle or hook 6. On the heel of the jaw I form bosses 5^a that engage in correspondingly formed slots in the draw-head, the object of these bosses being to provide for the contingency of the pin 4 accidentally becoming removed, when without some such means as the bosses 5^a, the jaw would slip from the draw-head, thus uncoupling the cars. The said draw-head and hook are designed to couple with a similar draw-head and hook of an adjacent car, and as the two draw-heads and jaws, and their accompanying parts are substantially the same on each car, I will describe but the one portion of the coupling.

The opposite side of the draw-head from that to which the jaw is pivoted is formed with an extension 7, formed of considerable weight to resist strain, that is substantially parallel to the side carrying the jaw; the arrangement being such that when two cars are brought together to couple them, the knuckles of each jaw strike and pass each other, and the extensions 7 strike against the outer face of each jaw, forcing the jaws into the position shown in Fig. III.

For the purpose of preventing the heels of the jaws from moving too far inward, I provide a rack bar 8, working in the draw-head, the point 8^a of which, when the coupling is connected, projects against the inner face of the heel 5.

9 are teeth on the rack-bar 8, that engage with the teeth 10, on a segment 11, the said segment 11 being secured to a rod 12, mounted in bearing boxes 13 on the under side of the car. The rack-bar 8 is held normally by a spring with its point 8^a projected into the draw-head, so that said point is always in position to form a stop for the jaw, except when it is desired to uncouple the cars.

There is one of the rods 12, and attachments at either end of the car, and the arrangement whereby the rods are operated to turn the segment, and thereby move the rack bar, may be similar on both ends of the car, or said arrangement may be of a different construction. In the arrangement I have shown, the coupling is designed to be operated at each end, when it is operated from the end marked A, whereas when it is operated

from the end marked B, but one of the couplings, the one at that end of the car, can be operated, the last mentioned end being equipped only with the arrangement for operating a single coupling.

I will now describe the means for moving the rack bar 8, through means of the rod 12. On the end of the rod is a crank arm 14, having loose engagement with a vertical shaft 15, between collars 15^a, which extends to the top of the car, where it is provided with a hand-wheel 16. The vertical shaft 15 has bearing in boxes 15^b. On the upper end of the shaft 15 is a collar 17, beneath which engages the end 18 of a foot lever 19, journaled in a bracket 20, secured to the roof of the car. It will be seen that upon depressing the foot lever 19, or accomplishing the same result by raising upon the hand wheel 16, the vertical shaft 15 will be elevated, carrying upward the loosely connected end of the crank arm 14, and thereby turning the rod 12, and segment 13, causing the rack-bar to recede, and leaving the jaw free to swing, thus uncoupling the cars.

21 is a hand-wheel on the rod 12, by which the rack-bar 8 may be operated from the ground. This hand-wheel is provided with a notch 22, in which engages the point of a gravity pawl 23, pivoted to the bracket 13, the purpose of the gravity pawl 23 being to provide a means of holding the hand wheel, when the rack bar has been drawn back, in order that the jaws of the coupling may swing open, which arrangement it would be desired to utilize when the cars are at a standstill, and it is desired to release the coupling and leave it in released condition until the cars are drawn apart. To release the gravity pawl from engagement after the cars have been uncoupled, so that the parts will be in coupling position, it is only necessary to turn the rod 12 slightly forward, when the weighted end of the pawl will cause the point of the pawl to rise out of engagement with the notch 22, the turning of the rod to be either accomplished from the ground by the hand-wheel 21, or from the roof of the car by the hand wheel 16. On the lower end of the vertical shaft 15 is a pulley 24, to which is connected one end of a chain 25, the other end of which chain is connected to a rod 26, running to the opposite end of the car and provided with a retracting spring 27, the said rod connecting to a crank arm 28, mounted on the rod 12 at the opposite end of the car.

By the arrangement just described, when it is desired to release the coupling at the opposite end of the car from that at which the vertical shaft and pulley are located, the vertical shaft 15, through the hand wheel 16 is turned, thus winding the chain 25 upon the pulley 24, drawing on the rod 26, moving the crank arm 28, and revolving the rod 12 at the opposite end of the car to retract the

rack bar 8, at that end, and this may be done at the same time that the vertical shaft is raised to lift the crank arm 14, and turn the rod 12 at the end of the car at which the vertical shaft is located.

For the purpose of providing means for connecting my coupling by links, or to the link of an ordinary car coupling, I form a recess 6^a in the knuckle of the coupling, and a coupling pin opening 6^b, whereby the link may be inserted in the recess, and the coupling dropped through the opening, thus coupling the cars.

2^a is an opening to receive a pin for connecting the draw-bar on the front of the locomotive with the coupling.

By a car coupling constructed in accordance with my invention, a device is formed that can be set for use at any time or place, and the cars left ready for coupling when desired without the necessity of switchman, or other operator being present to adjust the coupling, and attend to the cars to couple them.

Further, another advantage of my coupling is that in case of accident, as for instance the derailing of one car, or the falling of a car through a bridge, the car that leaves the track will immediately become released from the following car by the coupling slipping out of engagement, and the following car will not be drawn from the track by the first one.

Should the draw-head of one car be higher or lower than the draw-head on another car, to which it is desired to couple, a variation of several inches will not be of consequence as a small holding surface on each jaw of the coupling is sufficient to couple the two cars together.

I claim as my invention—

1. In a car coupling, the combination of the draw-head, pivoted jaw, bosses on said jaw, extension on the draw-head, and a rack-bar engaging the jaw; substantially as and for the purpose set forth.

2. In a car coupling, the combination of the draw-head, pivoted jaw, rack-bar, and rod and segment for operating said rack-bar, substantially as and for the purpose set forth.

3. In a car coupling, the combination of the draw-head, pivoted jaw, rack-bar, rod and segment for moving said rack-bar, crank-arm on said rod, and vertical shaft connected to said crank-arm to turn said rod; substantially as and for the purpose set forth.

4. In a car coupling, the combination of the draw-head, pivoted jaw, rack-bar, rod and segment for moving said rack-bar, vertical shaft, pulley, and flexible and rod connection between said pulley and rod at opposite end of the car, substantially as and for the purpose set forth.

5. In a car coupling, the combination of the draw-head, pivoted jaw, rack-bar, rod and segment for moving said rack-bar, crank arm

on said rod, connection between said crank-arm and vertical shaft, and a foot lever for raising said vertical shaft; substantially as and for the purpose set forth.

5 6. In a car coupling, the combination of the draw-head, pivoted jaw, rack-bar, spring bearing against said rack-bar, rod and segment for moving said rack-bar, hand wheel on said

rod, and pawl engaging said hand wheel to hold said rod, substantially as and for the purpose set forth.

WILLIAM FAULHABER.

In presence of—

A. M. EBERSOLE,
E. S. KNIGHT.