(No Model.) 2 Sheets—Sheet 1.

M. & F. RAYMOND.

CAR COUPLING.

No. 419,358. Patented Jan. 14, 1890.

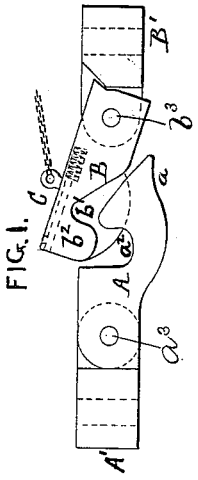


FIG. 1.

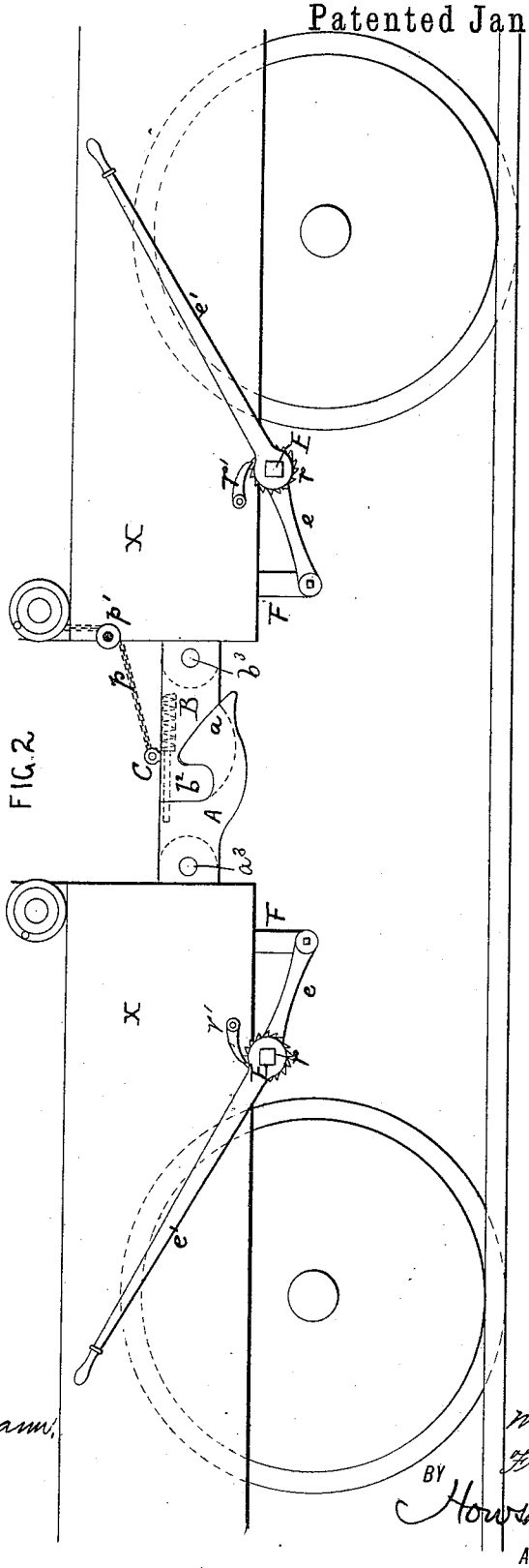
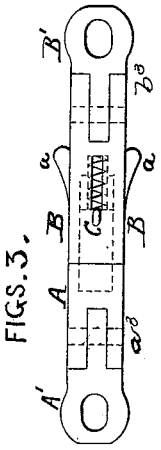


FIG. 2.



FIGS. 3.

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INVENTORS
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ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

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No. 419,358. Patented Jan. 14, 1890.

FIG. 4.

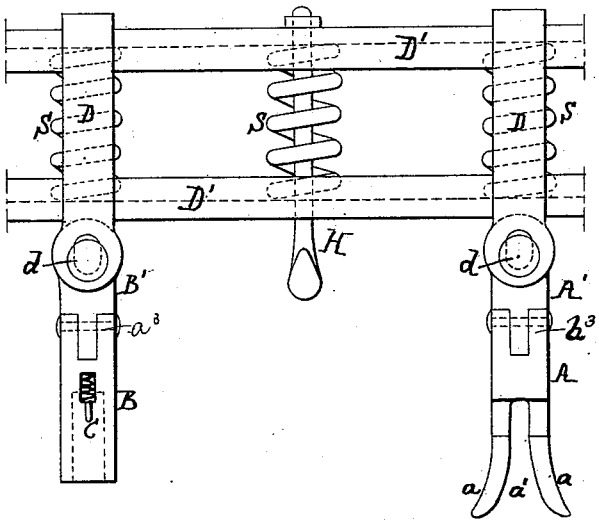


FIG. 13.

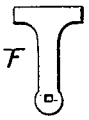


FIG. 14.

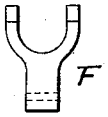


FIG. 5.

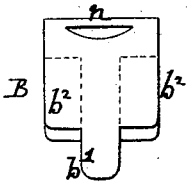


FIG. 6.

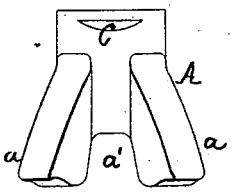


FIG. 7.

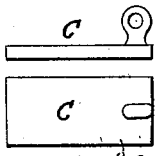


FIG. 8.

FIG. 9.

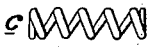


FIG. 10

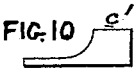


FIG. 15

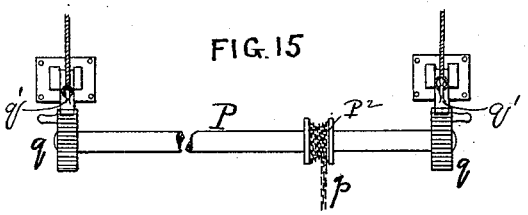


FIG. 11

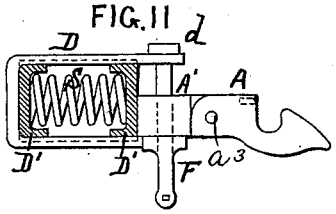
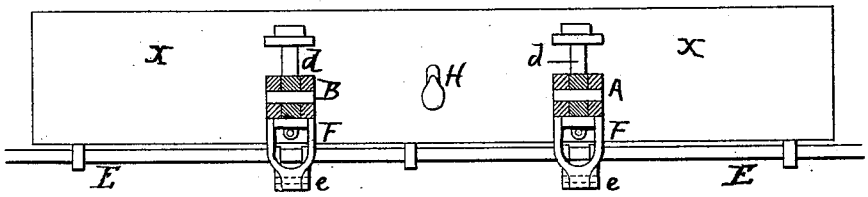


FIG. 12.



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and Frank Raymond

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ATTORNEYS

UNITED STATES PATENT OFFICE.

MATTHEW RAYMOND AND FRANK RAYMOND, OF LONDON, ENGLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 419,358, dated January 14, 1890.

Application filed August 14, 1889. Serial No. 320,709. (No model.) Patented in England October 19, 1887, No. 14,180.

To all whom it may concern:

Be it known that we, MATTHEW RAYMOND and FRANK RAYMOND, subjects of the Queen of Great Britain and Ireland, and residents of London, England, have invented certain Improvements in Car-Couplings, (for which we have obtained a patent in Great Britain, No. 14,180, dated October 19, 1887,) of which the following is a specification.

This invention consists of an improved automatic car-coupling which may be uncoupled without requiring the attendant to enter between the cars.

In the accompanying drawings, Figure 1 is a side view of our improved couplings in the position just before fastening. Fig. 2 shows the couplings fastened. Fig. 3 is a plan view of the couplings and draw-heads. Fig. 4 is a plan view of a portion of a car end fitted with our improved couplings. Figs. 5 and 6 are end views of the couplings. Figs. 7 to 15, inclusive, are detail views.

These couplings may be used singly or in pairs, as shown in Figs. 4 and 12.

The coupling-head A has hooked jaws *a a*, while the coupling-head B is formed with corresponding reverse hooks and an intermediate web *b'* to enter between the jaws *a a*. These jaws *a a* flare outwardly to guide the web *b'* in coupling.

The coupling-heads A B are connected to the draw-heads A' B' by horizontal pivots, Figs. 4 and 11. The inner ends of the draw-heads pass between the arms of U-shaped draw-bars D D, and vertical pins *d* pass through slots in the draw-bars and draw-heads. The slots in the draw-heads are elongated to allow of some play when the cars are coupled.

Transverse bars D' D', passing through the draw-bars, carry springs S, which press the outer bar D' against the inner ends of the draw-heads A' B'. The coupling-heads are vertically adjusted by means of forks F, upon the upturned ends of which rest the draw-heads A' B'. These forks are carried by levers *e* on a transverse shaft E, which is turned by means of the hand-lever *e'* and is locked by a pawl *r'* engaging with a ratchet *r* on the shaft. As the lever *e'* is lowered the lever *e* is raised, and in turn raises the forks F and draw-heads and couplings.

When the coupling-heads are hooked together, they may be locked by a spring locking-bolt C, which is recessed in the head B. The outer end of the bolt C passes into a corresponding opening in the head A under the action of the spring *c*. This locking-bolt is shown in detail in Figs. 7, 8, 9, and 10, C being the bolt, *c* the spring, and *c'* the casing for the spring. The bolt can be withdrawn by a chain *p*, secured at one end to the bolt C and passing a guide-pulley *p'* on the frame. The chain, after passing around a pulley p^2 on the shaft P, Fig. 15, has its end secured thereto. This shaft P runs across the end of the car, and is provided at each end with a hand-wheel *q*, so that the chain *p* may be wound on and off the pulley p^2 from either side of the car. This wheel *q* is formed with a ratchet and provided with a locking-pawl *q'*. When it is desired to uncouple the cars, the hand-wheel *q* is turned, and the chain *p*, being wound upon the pulley p^2, pulls the locking-bolt C against the action of its spring until it is disengaged from the coupling A, Figs. 1, 2, and 15. By winding up the chain *p* still farther the head B is lifted out of engagement with the head A. We also provide the cars with the ordinary hooks H, to allow of the coupling with a car not provided with our improvements. The couplings A and B, being pivoted at a^3 b^3, may be drawn up out of the way of the hooks H in such cases.

We claim as our invention—

1. A car-coupling device comprising a coupling-head with hooked jaws, a reverse coupling-head with hooks, and a web to enter between the jaws of the other head, substantially as described.

2. A car-coupling device comprising a coupling-head, a reverse coupling-head with hooks, and a web to enter between the jaws of the other head, each head being pivotally connected to car-bodies, and means for disengaging the coupling-heads, substantially as described.

3. A car-coupling device comprising two hooked coupling-heads, draw-heads carrying the coupling-heads, and means for ver-

tically adjusting the said heads, consisting of a transverse shaft, forks supporting the coupling-heads, and operating-levers, substantially as herein described.

4. The combination of two hooked coupling-heads on horizontal pivots, with a spring locking-bolt in the upper head, and means for withdrawing the spring-bolt and disengaging the two coupling-heads, consisting of a transverse shaft carrying a pulley and a chain, one end of which is attached to the bolt-head and the other attached to the pulley, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

Dated July 12, 1889.

MATTHEW RAYMOND.
FRANK RAYMOND.

Witnesses:
OLIVER R. JOHNSON,
Consulate-General, U. S. A., at London, England.
FRANCIS W. FRIGOUT.