L. L. MAXHIMER & H. TRUBEY.

Car-Coupling.

No. 213,122 Patented Mar. 11, 1879.

Fig. 1.

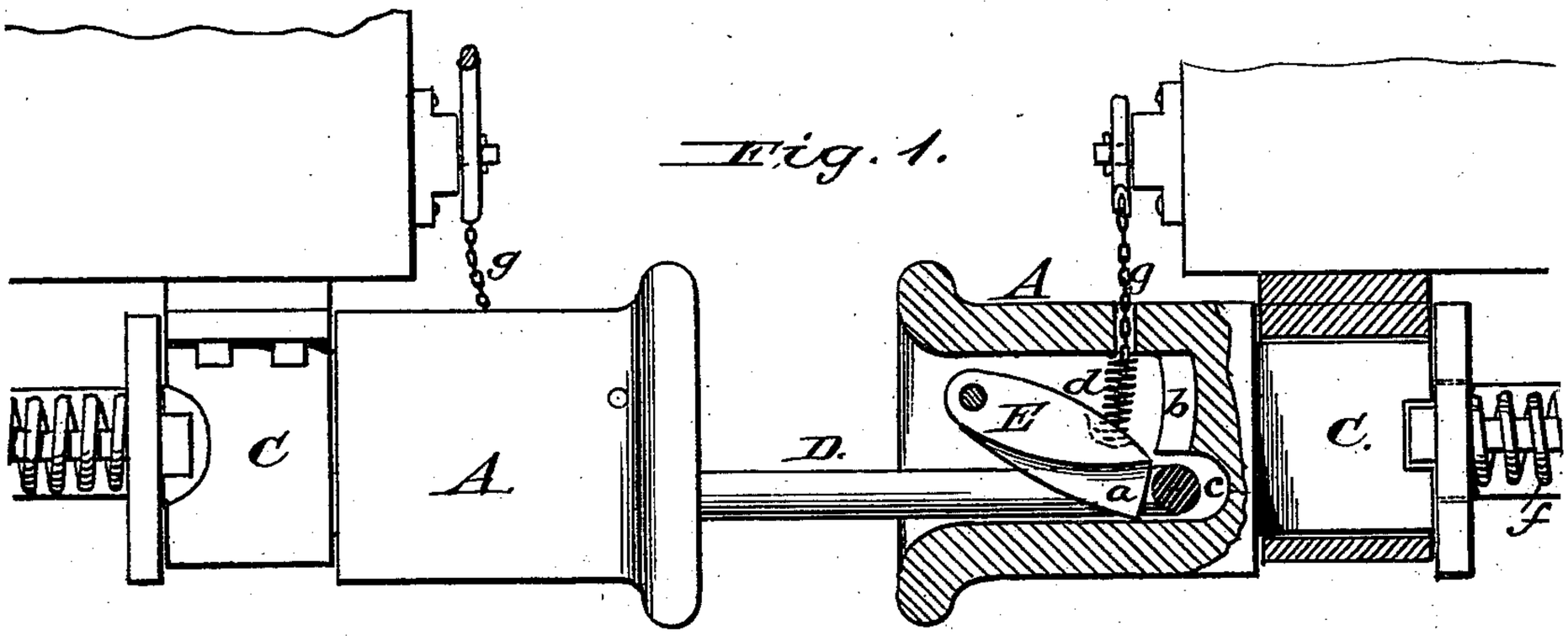


Fig. 2.

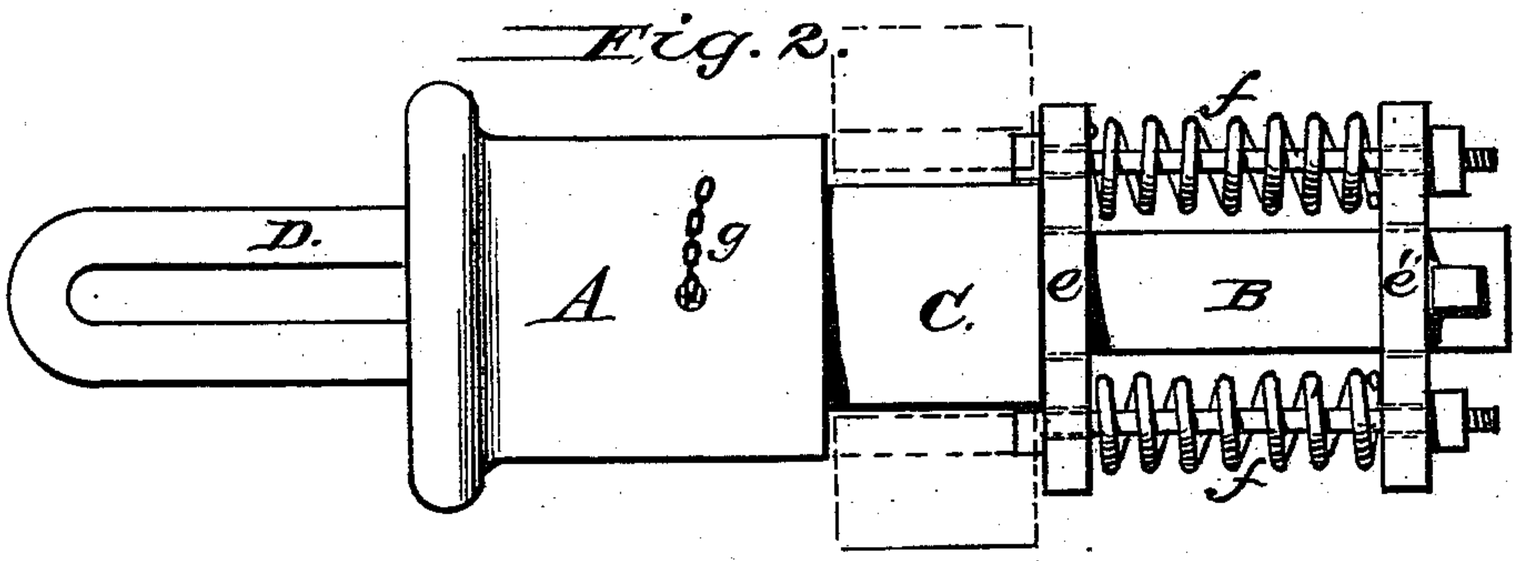


Fig. 3.

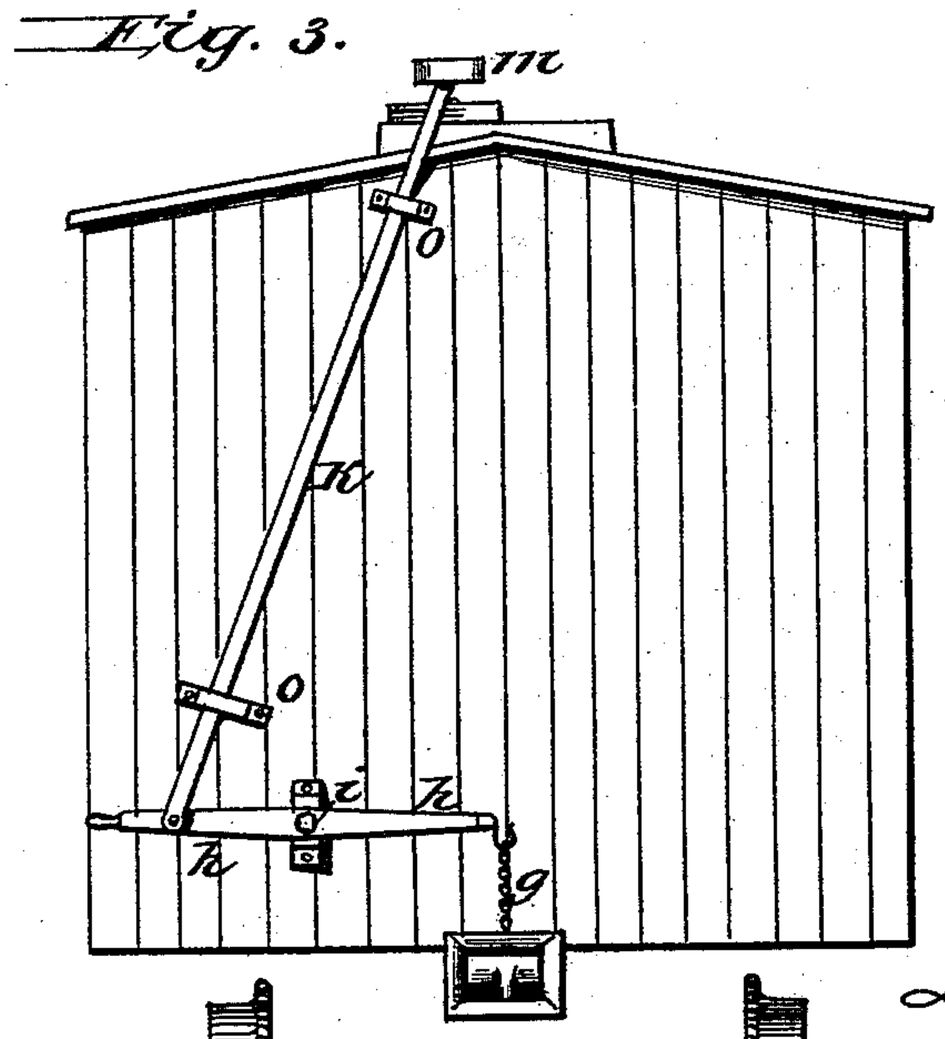
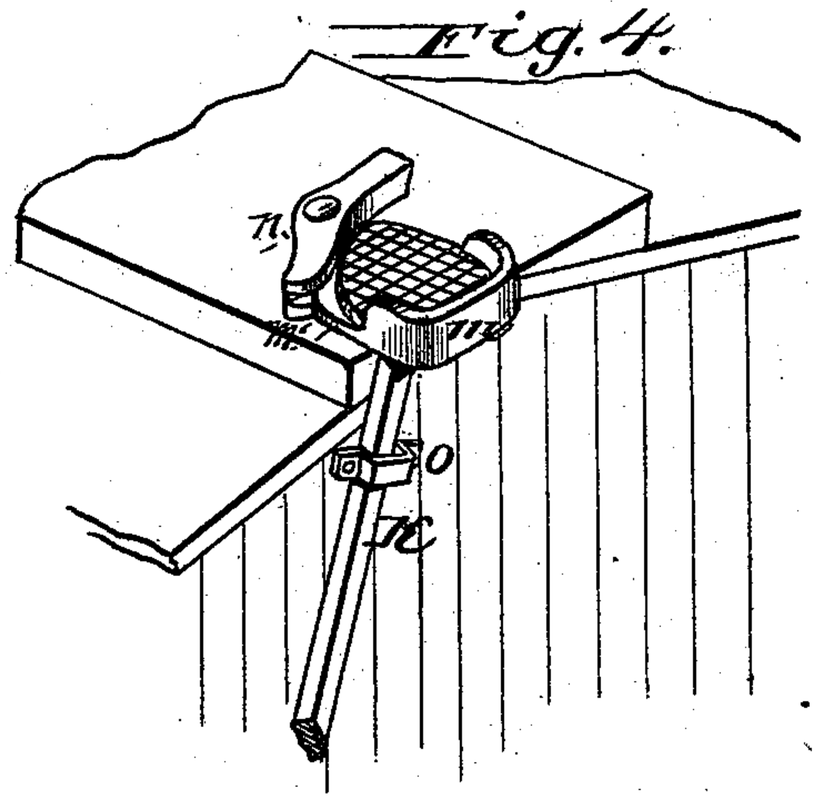


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEONARD L. MAXHIMER AND HARMON TRUBEY, OF NAVARRE, OHIO; SAID MAXHIMER ASSIGNOR TO NATHAN TRUBEY.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **213,122**, dated March 11, 1879; application filed November 26, 1878.

To all whom it may concern:

Be it known that we, LEONARD L. MAXHIMER and HARMON TRUBEY, of Navarre, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to automatic car-couplings.

The object of the invention is to provide means for the uncoupling of the cars in the most convenient and expeditious manner, from the top as well as from the side of the car, in connection with devices which act promptly and automatically to couple the cars when they are run together; and, also, to provide convenient means, in connection with such devices, for suspending the automatic action thereof as occasion requires. The invention is more particularly applicable to box-cars.

The invention consists in certain combinations and arrangements of parts, hereinafter described and distinctly claimed.

Figure 1 of the drawings represents a pair of draw-heads coupled, one of said draw-heads being shown in section. Fig. 2 is a plan view of one of the draw-bars. Fig. 3 is an end elevation of a box-car, showing the arrangement of parts used for manipulating the coupling devices. Fig. 4 shows the arrangement of the foot-piece or step, in connection with its holder or foot-lock, on the top of the car.

A in the drawings represents the draw-head, constituting the forward or projecting end of the draw-bar. B is the rear extension of the draw-bar, or the draw-bar proper. C is the intermediate part, by which the draw-bar is attached to the car-body. D is the coupling-link.

The draw-head A has the ordinary cavity, is of about the usual construction, and is provided with a latch, E. The forward end of this latch is hung on a pivot near the upper side, and near the mouth of the cavity, while the rear end is made to rise and fall to release or to lock the coupling-link. This latch has a longitudinal rib, *a*, on its under side, increasing in depth from front to rear, which rib projects between the bars of the coupling-link, the end thereof forming the abutment against which the end of the coupling-link pulls. The latch thus arranged forms a brace between the upper and the lower sides of the cavity, and the tendency of the draft of the coupling-link is to hold the latch to its place. The upper part or body of the latch is of equal, or nearly equal, width with the cavity, and a slight projection at the rear or tail end fits into a vertical groove, *b*, in the inner end of the draw-head. This construction prevents any lateral displacement of the latch. The under faces or cheeks of the latch, each side of the rib *a*, rest upon and press against the bars of the coupling-link, and help to hold the link to its proper place.

An expansive spring, *d*, is inserted between the latch and the top of the draw-head, the tendency of which is to force down the latch. This spring is found to be necessary to render the latch operative, in view of the fact that said latch is connected to other mechanism, hereinafter described, which connection prevents the latch from operating from the mere effect of gravity.

A recess, *c*, is formed in the rear end of the draw-head, as a continuation of the lower portion of the draw-head cavity. The end of the coupling-link projects into this recess, and the latch E is extended sufficiently to hold it therein. That part of the draw-head which forms the upper surface of this recess operates, in connection with the latch and its spring, to hold the coupling-link in a horizontal position when the cars are uncoupled. This position enables the projecting end of the coupling-link to insert itself into the corresponding draw-head, to effect the automatic coupling of the cars when they are run together for that purpose.

The draw-bar B is provided with two sliding blocks, *e e'*. The block *e* rests against the shoulders formed by the enlargement of the bar at the part C, while the block *e'* is placed at the inner end of the draw-bar. Interposed between these blocks are springs *f f*, one on each side of the bar B. The draft of the bar B being against the block *e'*, the said block yields more or less, and prevents the jerk of the cars

when the train is started or its speed suddenly increased.

Some advantage occurs in the use of two springs instead of one. The pressure being distributed, there is less liability of breakage.

A chain, *g*, is used to raise the latch E to uncouple the cars. Its lower end being attached to said latch, it passes up through a hole in the top of the draw-head, and its upper end is attached to one end of a lever, *h*. Lever *h* moves on a fulcrum, *i*, which is fastened to the end of the car. The opposite end of this lever projects to the edge of the car-body, and is provided with a handle, whereby it may be readily operated to uncouple the cars by the train-man when standing on the ground.

In order that the uncoupling may also be readily effected by the train-man from the top of the car, a pedal-staff, *k*, is connected to lever *h*, near the handle end thereof. This pedal-staff slides in supports *o o*, which are fastened to the end of the car, projects slightly above the top of the car, and is provided at its upper end with a foot-piece or step, *m*. A pressure of the foot upon the foot-piece depresses the pedal-staff, operates the lever *h*, raises the latch E, and allows the coupling-link to be withdrawn.

In the shifting of cars and making up of trains, especially of freight-trains, cars are often brought in contact when it is not desired that they should become coupled to each other; consequently some means are required in automatic couplings of suspending their action. To this end a foot-lock, *n*, is provided. This foot-lock is arranged to turn on a pivot on top of the car. It is provided with a groove, into which matches a tongue, *m'*, formed on one side of the foot-piece *m*.

When the pedal-staff *k* is depressed and the latch E raised, the tongue *m'* is opposite the groove of the foot-lock. When it is desired to hold the latch out of contact, the grooved end of the foot-lock is pressed forward by the toe of the train-man's boot, and said groove receives the tongue *m'*, and the parts are held stationary. When it is desired to release the latch, the train-man presses the other end of the foot-lock, and the spring *d* forces the latch down and raises the pedal-staff. This arrangement of parts affords an exceedingly simple and convenient method of operating the coupling devices.

What is claimed as the invention is—

1. The combination of the draw-head A, provided with a vertical groove, *b*, in its inner end, the latch E, hung at its forward end near the mouth of the draw-head, and provided with a central rib, *a*, the inner end of which projects into groove *b*, and a spring, *d*, interposed between the said latch and the top of the draw-head, the said parts being adapted to operate in connection with the coupling-link, substantially as described.

2. The combination of the draw-head A, the latch E, provided with the central rib, *a*, the spring *d*, chain *g*, lever *h*, pedal-staff *k*, and foot-piece *m*, substantially as described.

3. The combination of the draw-head A, latch E, spring *d*, chain *g*, lever *h*, pedal-staff *k*, foot-piece *m*, and foot-lock *n*, substantially as described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

LEONARD L. MAXHIMER.
HARMON TRUBEY.

Witnesses:
ESDRAS TRUBEY,
JACOB M. TRUBEY.