

(No Model.)

F. E. GROTHAUS.
CAR COUPLING.

No. 300,864.

Patented June 24, 1884.

Fig. 1.

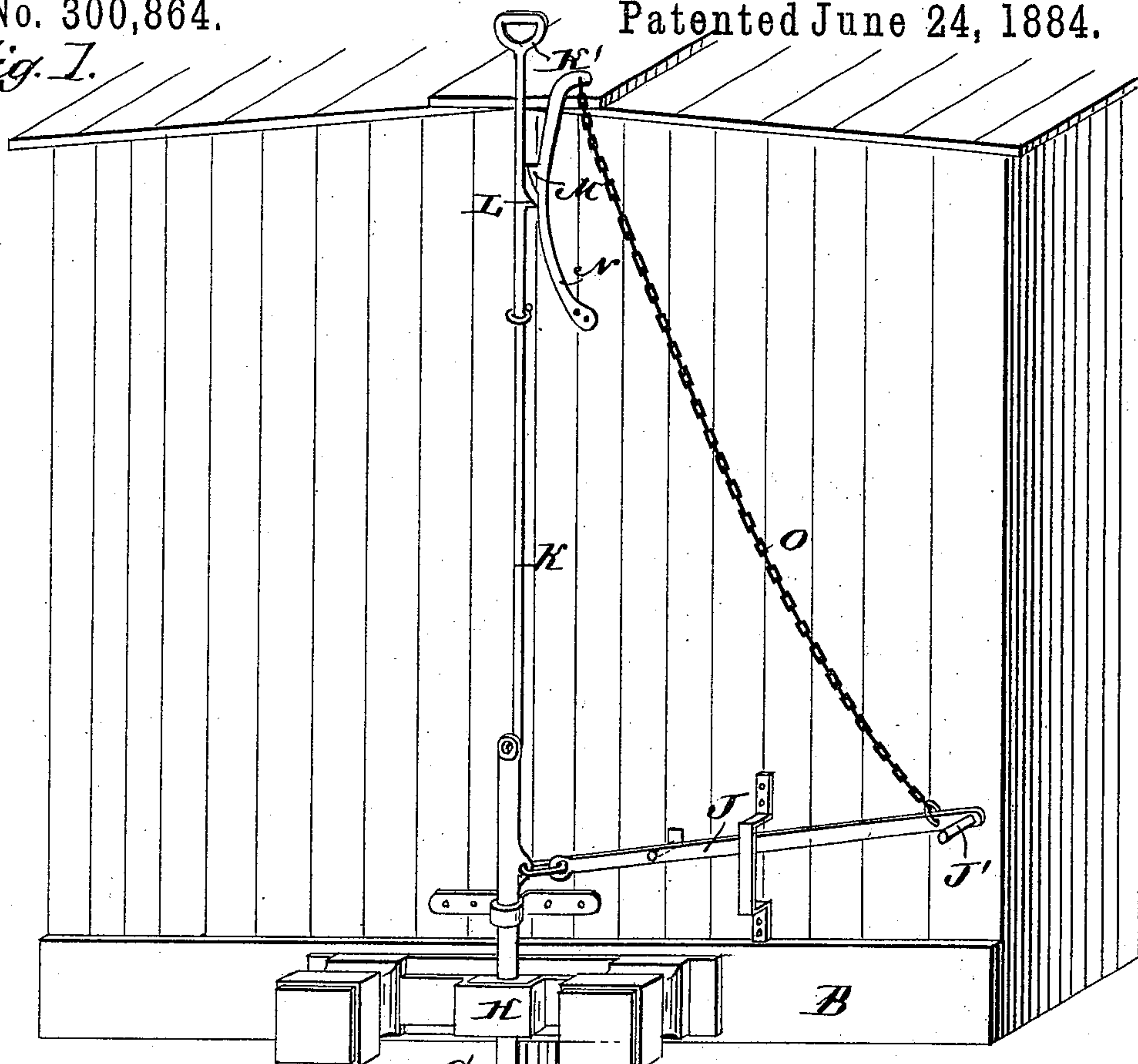


Fig. 3.

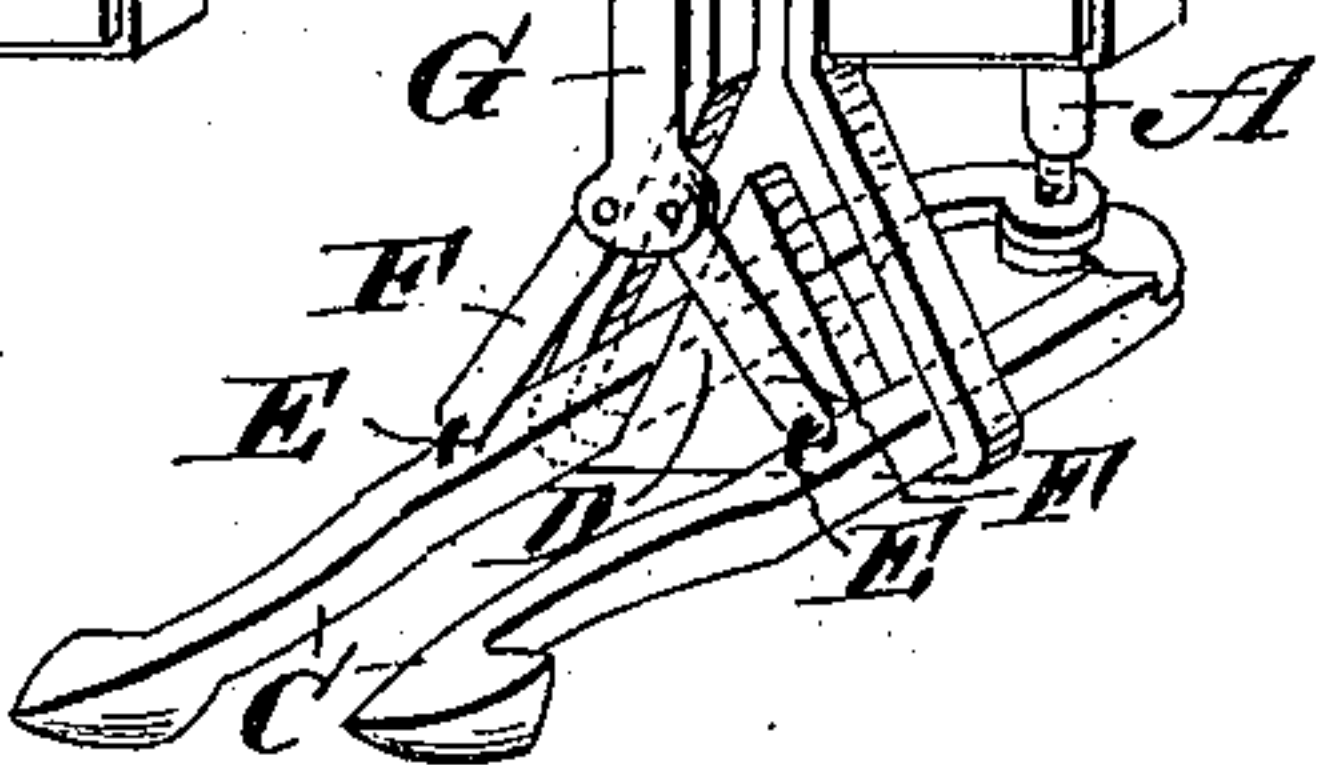
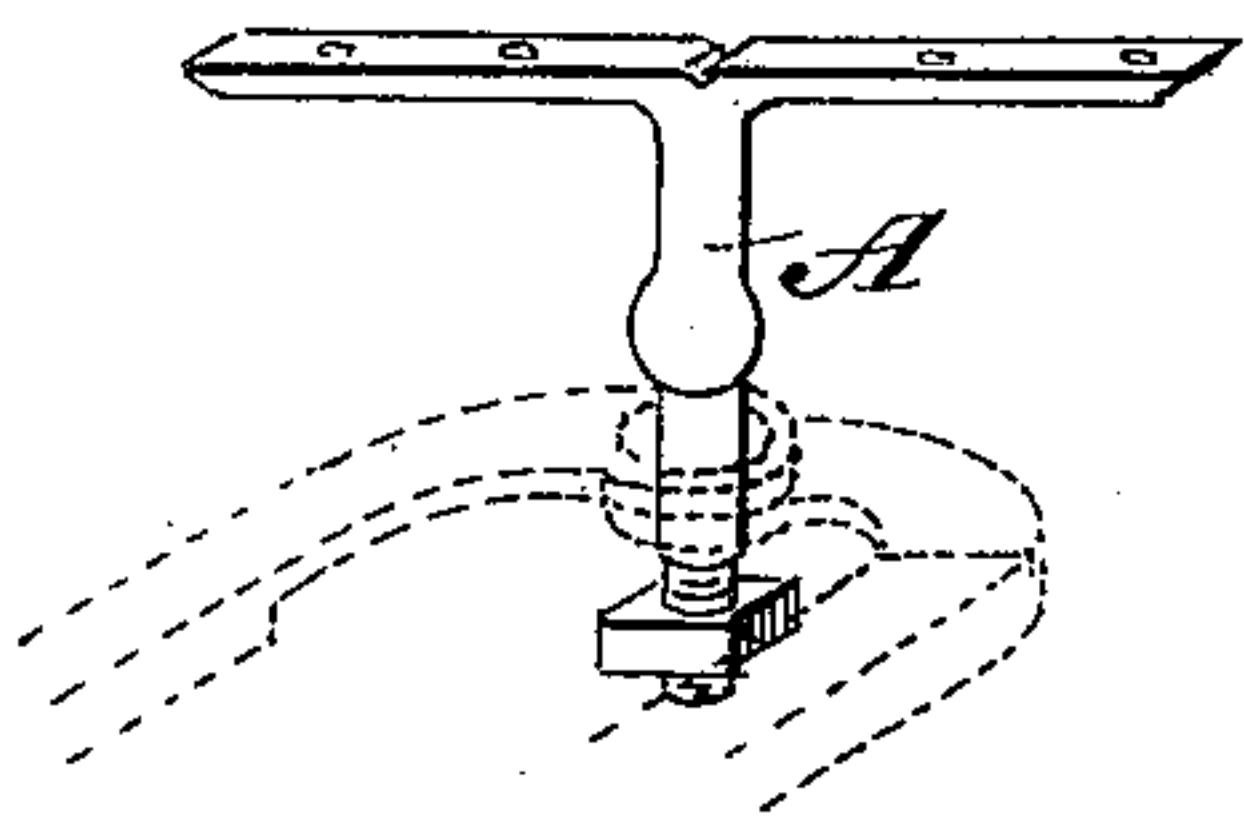


Fig. 2.

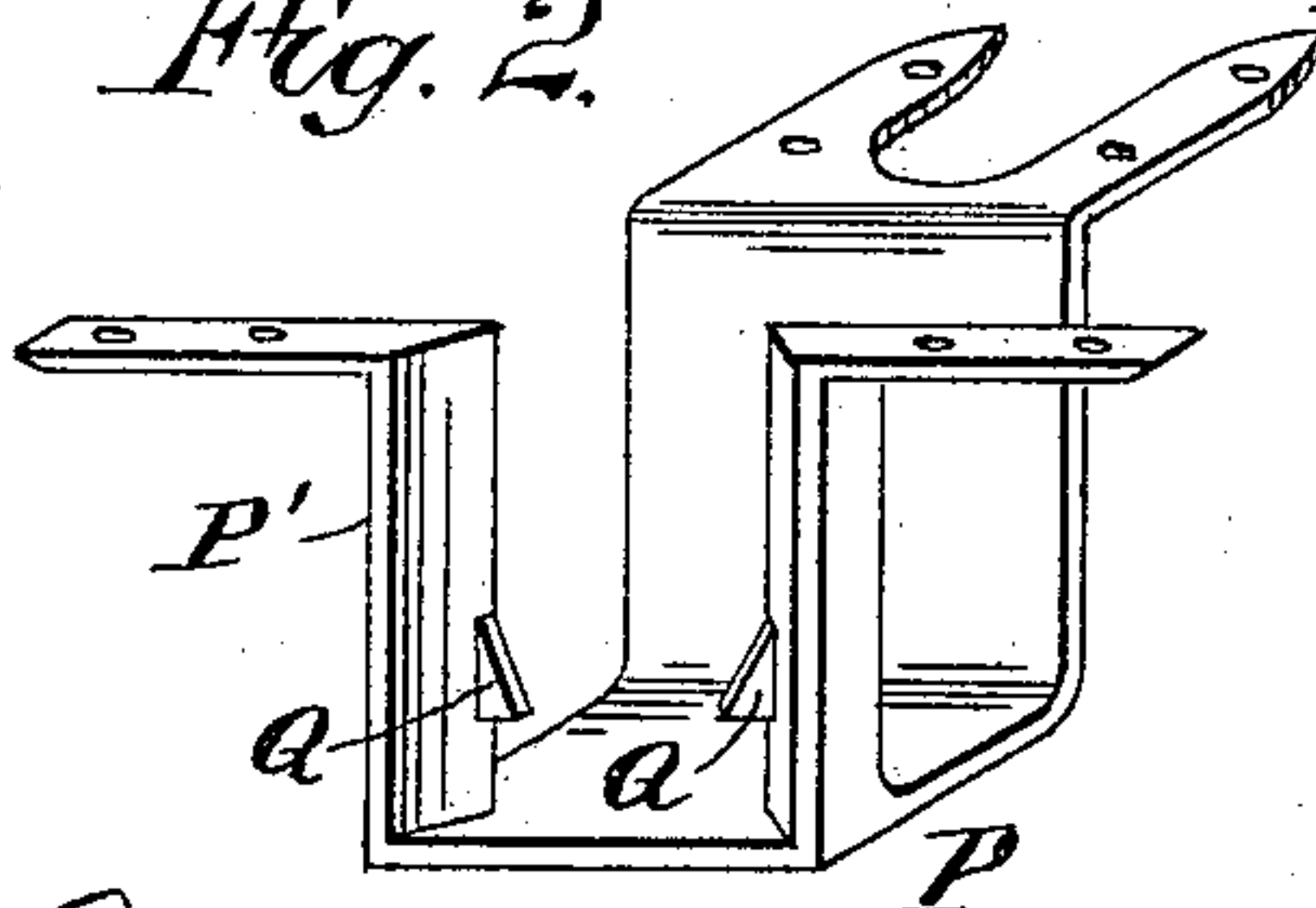
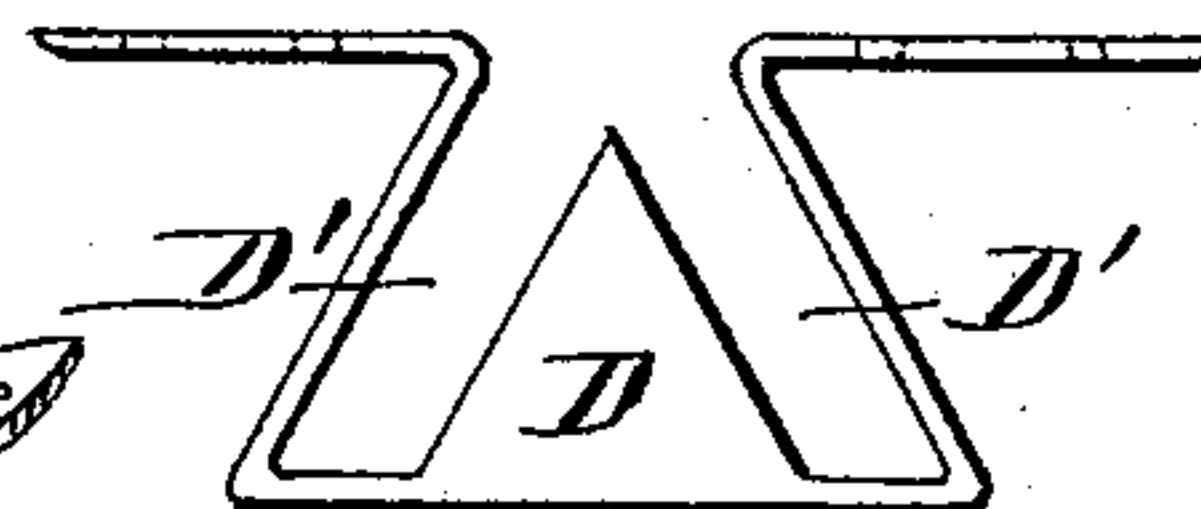


Fig. 4.



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FREDERICK E. GROTHAUS, OF BOERNE, TEXAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 300,864, dated June 24, 1884.

Application filed January 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. GROTHAUS, of Boerne, in the county of Kendall and State of Texas, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The invention consists in a car-coupling formed of two coupling-hooks pivoted on a pivot projecting from the bottom of the car, which coupling-hooks pass through an inverted-V-shaped guide-slot in the guide-plate held in front of the pivot, and the said coupling-hooks are connected with a vertically-movable bar for raising the coupling-hooks. The coupling-hooks are raised and their free ends are pressed together, and if then the coupling-hooks are released they swing downward and their free ends are separated so as to allow the hooks to catch on the front posts of the coupling-box on the opposite car.

The invention also consists in various parts and details and combinations of the same, as will be fully described and set forth hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of my improved car-coupling, showing it applied on a car. Fig. 2 is a perspective view of the coupling-box on the other car, on the front piece of which box the coupling-hooks catch. Fig. 3 is a perspective view of the pivot on which the coupling-hooks are pivoted. Fig. 4 is a front view of the guide for the coupling-hooks.

A pivot, A, projects downward from the bottom of the car B, and on the said pivot two sliding curved hooks, C, are pivoted, which hooks project beyond the end of the car, and the heads of the hooks project from the outer edges of the said hooks. The hooks pass through a guide-piece, D, projecting from the bottom of the car in front of the pivot A, which guide-piece is provided with an inverted-V-shaped slot, D', one hook C resting in each shank of the said inverted-V-shaped slot, D'. In front of the guide plate or piece D each hook C is provided in its upper edge with a staple, E, in which one end of a link, F, is held, the upper ends of the said links being held in the lower end of a bar, G, held to slide

vertically in a bar, H, held on the end of the car between the buffers. The bar G is also guided on the end of the car. A lever, J, pivoted to the side of the car, has one end connected with the vertically-movable bar G, and is provided at its outer end with a handle, J', whereby, by pressing down the outer end of the lever J, the bar G and the coupling-hook suspended from the same will be swung up. A vertical rod, K, guided on the end of the car, extends to the roof of the same, and is provided at its upper end with a handle, K'. The said rod K is provided with an offset or tooth, L, adapted to engage with an offset, M, on a spring, N, held on the end of the car, the lower end of the spring being fixed and the upper end being free. The upper end of the spring N is connected by a chain, O, with the outer end of the lever J. On the other car a coupling-box, P, is held, which is provided at its outer end with two upright bars, P', which have their inner edges beveled inward and toward each other, and each inner edge is provided with a prong, Q, the prongs Q projecting downward and toward each other.

The operation is as follows: If the cars come together, the heads of the hooks C, which heads are beveled outwardly and downwardly, as shown, strike the beveled inner surfaces of the vertical posts P' of the coupling-box P, and are guided upwardly by the beveled posts or sides of the said box P. The prongs Q Q are intended to hold the coupling-hooks in position after coupling the cars, to prevent the hooks from swinging upward. The beveled surfaces of the posts P' also pass the outer ends of the hooks C toward each other, and as the hooks swing toward each other they also move upward, or are guided upward by the inverted-V-shaped slot D' in the guide-plate D. After the heads of the hooks have passed beyond the posts P' of the coupling-box P, the said coupling-hooks swing downward and outward, and then catch behind the posts P' of the coupling-box P. The cars are thus coupled automatically.

If the cars are to be coupled by hand, the coupling-hooks are raised, either by means of the lever J or by means of the rod K, and as the coupling-hooks are raised they are moved toward each other by the edges of the inverted-V-shaped slot D'. After the heads of the

hooks have passed beyond the posts P' of the coupling-box, the lever J is released so that the coupling-hooks are swung downward, and at the same time the coupling-hooks swing outward and catch on the posts P'.

If the cars are to be uncoupled, the bar G is raised for the purpose of swinging the outer ends of the hooks C toward each other and raising them at the same time. If the cars are not to be coupled, the rod K is raised to such an extent that its tooth L engages with the tooth M on the spring N, whereby the hooks C will be held raised and cannot be coupled. If the cars are to be coupled, the upper end of the spring N is swung from the rod K, either by pulling on the chain O or by pulling on the upper end of the spring N, and thereby the rod K is released. As the coupling-hooks C not only swing laterally, but also swing up and down, they must be pivoted on the pivot A in such a manner as to have some play.

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

1. In a car-coupling, the combination, with two levers pivoted on the bottom of the car, of a guide provided with an inverted-V-shaped slot, through which the hooks pass, and of means for swinging the hooks upward, whereby their outer ends will be moved toward each other, substantially as herein shown and described.

2. In a car-coupling, the combination, with two hooks pivoted to the bottom of the car, of a guide provided with an inverted-V-shaped slot, through which the hooks pass, a vertically-movable bar, G, and the links F, connecting the hooks C with the lower end of the bar G, substantially as herein shown and described.

3. In a car-coupling, the combination, with the coupling-hooks C, pivoted to the bottom of the car, of the plate D, provided with an inverted-V-shaped guide-slot, through which the hooks pass, the vertically-movable bar G, connected by links F with the hooks C, and of the lever J for moving the bar G upward, substantially as herein shown and described.

4. In a car-coupling, the combination, with the hooks C, pivoted to the bottom of the car, of the plate D, provided with an inverted-V-shaped guide-slot, the vertically-movable bar G, connected with the hooks C, and of means for locking the bar G in place, substantially as herein shown and described.

5. In a car-coupling, the combination, with the coupling-hooks C, of the plate D, provided with an inverted-V-shaped guide-slot, D', the bar G, the links F, the rod K, provided with a tooth, L, and the spring N, provided with a tooth, M, substantially as herein shown and described.

6. In a car-coupling, the combination, with the coupling-hooks C, of the plate D, provided with an inverted-V-shaped guide-slot, D', the bar G, the links F, the rod K, provided with a tooth, L, the spring N, provided with a tooth, M, the pivoted lever J, connected with the bar G, and the chain O, connecting the lever J with the spring N, substantially as herein shown and described.

7. In a car-coupling, the coupling-box P, provided at its front with two uprights, P', beveled inward and toward each other, and provided with prongs or teeth Q, substantially as herein shown and described.

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Witnesses:

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