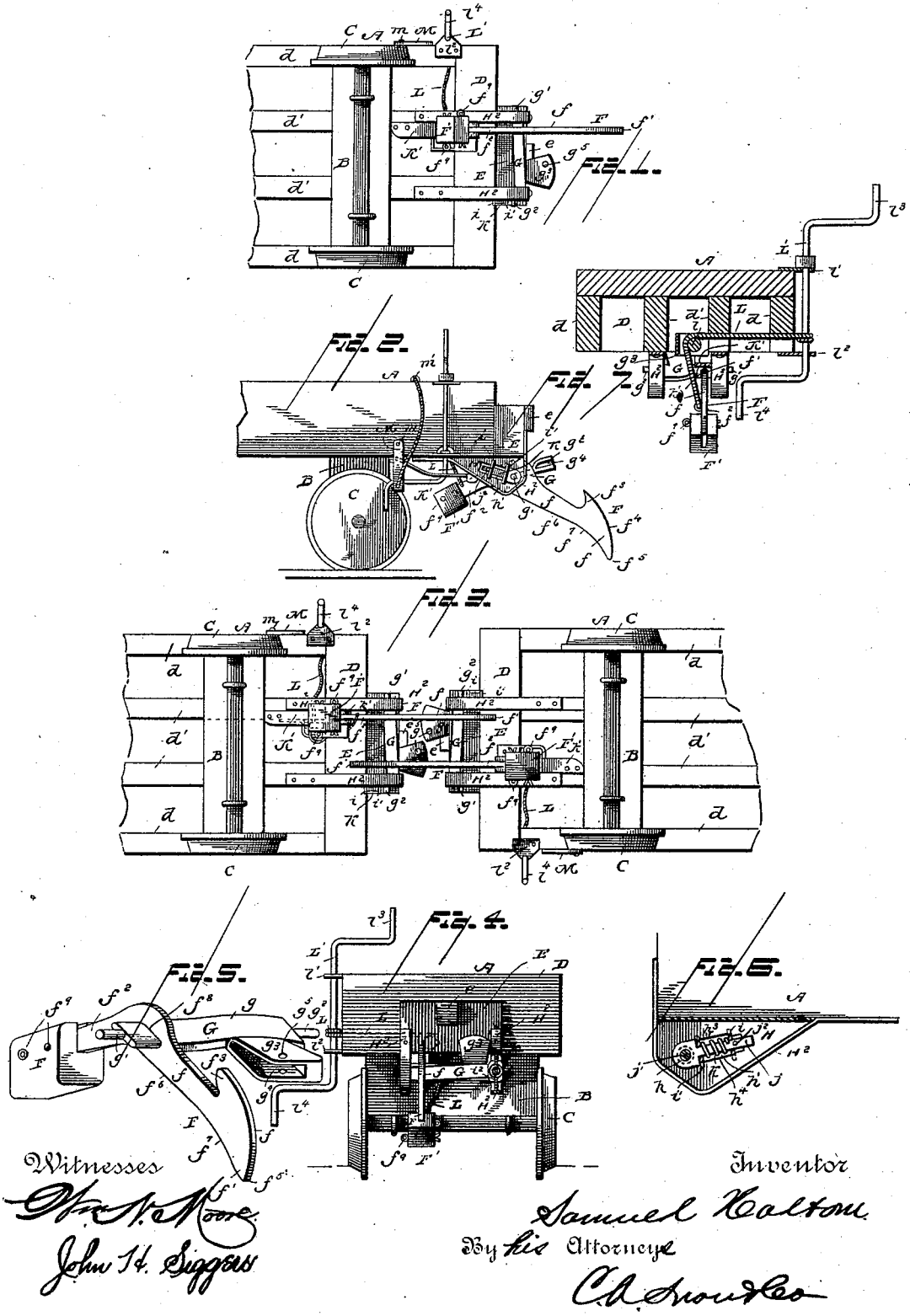
(No Model.)

S. HALTOM.

CAR COUPLING.

No. 342,793. Patented June 1, 1886.



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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 342,793, dated June 1, 1886.

Application filed February 23, 1886. Serial No. 192,885. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HALTOM, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in car-couplings, having for its objects, first, the provision of a coupler having means whereby two meeting cars may be automatically coupled together; second, the provision of means whereby the cars may be uncoupled either from the ground at the sides thereof, or from the roof or platform of said cars; third, the provision of a car-coupler adapted to engage with the coupler of a car the bottom of which is in either a higher or lower plane than that first named; and, fourth, the provision of a car-coupling combining strength, durability, and simplicity of construction and action. To these ends the invention consists in the construction, arrangement, and combination of parts, substantially as hereinafter described, and specifically pointed out in the claims.

In the drawings, Figure 1 represents a bottom plan view of a car provided with a coupling device embodying my improvement. Fig. 2 is a side elevation thereof. Fig. 3 is a view showing two cars coupled together. Fig. 4 represents a front elevation of a car provided with my improvements. Fig. 5 is a detail view of the coupling device. Fig. 6 is a detail side view of the spring-connection for the coupling-bar, and Fig. 7 is a transverse section.

Referring to the drawings, in which similar letters of reference denote similar parts, A designates the car-body, mounted upon the ordinary truck, B, and truck-wheels C.

D designates the transverse end timber of the bottom; *d d'*, the center longitudinal rails or sleepers of the car-body; and E the buffer-block, secured to the rail or timber D at its middle, and provided with the usual buffer, *e*.

F designates the coupling hook or bar, consisting in a thin flat plate of metal, *f*, having parts f' f^2 at angles with each other, the former of which is provided at its forward end upon its upper edge with an upwardly and rearwardly projecting hook-shaped projection, f^3, the forward edge of which is curved downwardly, as shown at f^4, to a point, f^5, below the plane of the bottom edge, f^6, of the plate *f*, and said point f^5 is joined to the bottom f^6 by a curved line, f^7, as shown, for a purpose hereinafter described.

f^8 designates an aperture formed through the plate *f* at or near its middle, to receive the coupling-bar G, upon which the hook F is mounted and operates.

The part f^2 projects in a downwardly-inclined direction from the part f', and is provided at or near its end with a weight, F', secured to said part by pins or keys f^9.

G designates the coupling-bar, consisting in a flat bar, *g*, having it opposite ends provided with outwardly-projecting journals g' g^2, that are mounted in apertures *h*, formed in castings H, secured to and depending from the car-body, as hereinafter described. The bar *g* is twisted slightly in its length, and is provided near one end with a forwardly-projecting part, g^3, provided in its forward inner side edge with a groove, g^4, to receive the ordinary coupling-link of a car not having my improvement. The part g^3 is apertured at g^5, to receive the usual coupling-pin, when used in the connection named.

H H' designate castings, secured to and depending from the car-body, one of said castings having a circular aperture, *h*, the other a slot, *h'*, formed therethrough to receive the journals g' g' of the bar *g*, as hereinafter described.

H^2 designate metal straps, that pass about and support the castings H H', and are secured at their opposite ends to the timber D and rails *d d'* of the car-body, respectively. The slot *h'* of the casting H' is at its middle widened to form shoulders h^3 h^4, that form stops for apertured plates *i i'*, the opposite ends of each of which is notched or recessed at its middle, as shown at i^2, to embrace the sides of the casting at the edges of the slot when said plates are in position, as shown in the slot *h'*.

j designates a draw-bar, having its forward end flattened and provided with an aperture, *j'*. This bar passes loosely through the aperture in the plate to and through the aperture in the plate *i'*, and is held in position by a key or pin, j^2, that passes through its rear end outside of the plate *i'*.

K designates a spiral or coiled spring, placed upon the rod or bar *j*, between the plates *i i'*.

The parts last-above described are attached to the casting in which the end of the bar G, having the projection g^3, is journaled, and said bar is journaled at its ends, respectively, in the aperture h of the casting H, and aperture j' of the draw-bar j, as shown.

K′ designates a leaf-spring, secured to one of the rails d, and provided at its lower end with a saddle, k', that bears upon the upper edge of the part f^2 of the hook-plate F, for the purpose of aiding the weight F′ thereon.

L designates a chain attached to the arm f^2, near the weight F′, that passes thence over a pulley, l, pivoted to the car-body, thence outwardly, and is attached to a vertical shaft, L′, mounted in bearing loops or staples l' l^2, that projects from the side of the car-body.

l^3 l^4 designate crank-arms, formed upon each end of the shaft L′, for the purpose of operating said shaft.

M designates a swinging latch, pivoted at m to the side of the car-frame, and provided at its opposite end with a chain that extends thence to a staple, m', to limit the movement of the latch M, and provide means for raising the same from engagement with the lower crank arm or handle, l^3, when desired.

The operation of my device is as follows, it being borne in mind that the forward end of the hook-plate F is by its weight F′ normally held at its highest point of elevation: When two cars provided with my improvement approach each other the outer hooked end of the plate F upon one car will strike against the lower inclined surface of the outwardly-projecting part g^3 of the bar G, and as the cars continue to approach each other will slide down said surface until its hook passes behind said bar. It will be understood that the hooked plate F of the second car is repeating the operation above described as regards the inclined part g^3 of the car first named. It will also be understood that the weights F′ upon the plate F operate to cause the hooked end of said plate to pass behind the bar of the adjacent car. To uncouple the cars, the weighted inner end of one of the plates F is raised through the crank-shaft L′ and chain L, by which the part g^3 upon the bar G of the part so raised will bear upon and depress the hooked plate projecting from the adjacent car. The latch M is now dropped, and falling behind the lower crank-arm, l^3, of the shaft L′, prevents it from turning backward, as will be understood.

Modifications in detail of construction may be made in the herein-described invention without departing from the spirit or sacrificing the advantages thereof.

I claim—

1. In a car-coupling, a bar, G, having a projecting portion, g^3, provided with a groove, g^4, and aperture g^5, in combination with a bar, F, mounted upon the bar G, and provided with a hooked end, f^3, a weighted end, F′, castings H H′, and straps H^2, substantially as described.

2. In a car coupling, a bar, G, having outwardly-projecting journal-bearings g' g^2, projecting portion g^3, having groove g^4, and aperture g^5, in combination with castings H H′, draw-bar j, plates i i', and spring K, substantially as described.

3. In a car-coupling, a plate, F, having a hooked forward end, f^3, and a weighted rear end, F′, said bar mounted upon a coupler-bar, G, having a projecting part, g^3, provided with a groove, g^4, and aperture g^5, said bar pivoted in castings H H′, depending from the car-body, with a chain, L, crank-shaft L′, and latch M, limited in its movements by chain m, as and for the purpose set forth.

4. In a car-coupling, a plate, F, having forward hooked end and rearward weighted end, said bar mounted upon an oscillating bar, G, having journal-bearings g' g^2, and forwardly-projecting part g^3, in combination with a spring, K, chain L, crank-shaft L′, latch M, and chain m, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

SAMUEL HALTOM.

Witnesses:
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