(No Model.)

L. A. BRANCHAUD.

CAR COUPLING.

No. 303,698. Patented Aug. 19, 1884.

FIG. 1.

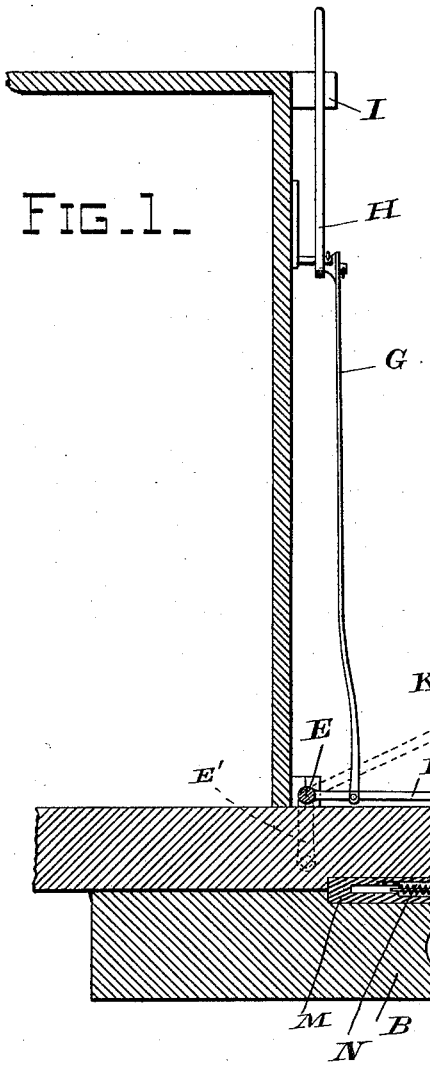
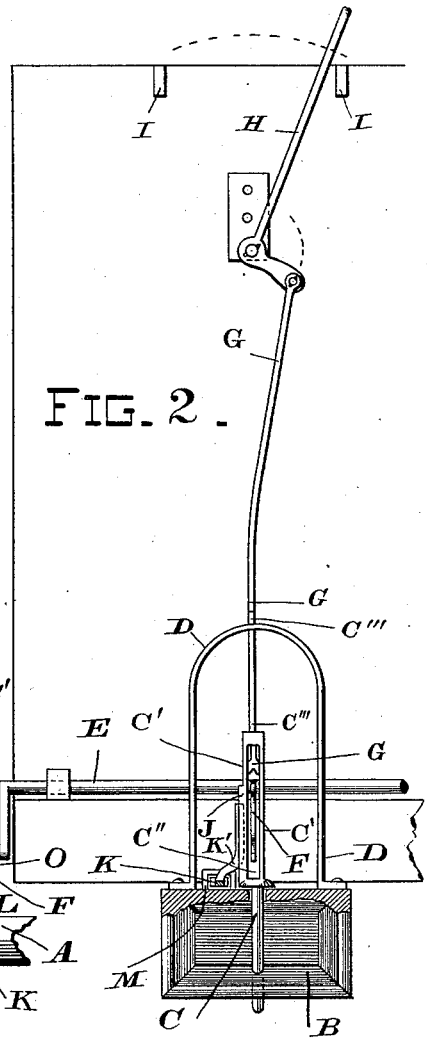


FIG. 2.



WITNESSES

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LOUIS A. BRANCHAUD, OF SAN FRANCISCO, CALIFORNIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 303,698, dated August 19, 1884.

Application filed December 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, LOUIS A. BRANCHAUD, a subject of the Queen of Great Britain, and residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

Figure 1 is a longitudinal vertical section through the draw-head and one end of a car, showing my improved coupling device in position. Fig. 2 is a front view of the same, showing the draw-head partly broken away.

Similar letters of reference are used to indicate like parts throughout the several figures.

The coupling-link A is made somewhat oval-shaped in plan, and has its lower front edges or ends rounded off, as shown in Fig. 1, in order that it may more easily be entered into the link-cavity of the draw-head B. In practice the link-cavity of the draw-head is made of such a size as to permit of a forward and backward play of two or three inches being given to the connecting-link when in position, yet otherwise conforming so closely to the shape of the link as to hold it in a nearly horizontal position when the coupling-pin has been passed through the said link.

The coupling-pin C is provided with an upward extension, C′, having therein a slot, C″, and the whole is surmounted by a stem or guide-rod, C‴, which passes through a bracket, D, attached to the upper face of the draw-head, as shown in Fig. 2.

In the angle formed by the end wall of the car and the platform I journal in suitable bearings the crank-shaft E, the cranks E′ of which are extended past the side of the car-body sufficiently far to permit of their being operated by an attendant.

To the center of the shaft E, I weld or otherwise firmly secure the lever-arm F, which is extended forward and enters the slot C″ in the extension of the coupling-pin, as shown in Fig. 1.

Near the pivoted end of the lever F, I attach a rod, G, connected to the lower end of the bent lever H, pivoted on a pintle attached to the upper part of the end of the car. The upper end or handle of this lever may play within a ratchet-toothed guide in the usual manner, or its movement may be regulated or limited by two projecting blocks or lugs, I I, as shown.

In order that the coupling-pin may be held up when not in active use, I attach to one side of it an inclined tapering lug, J, which is made wedge-shaped, having its base on a horizontal plane with the lower face of the coupling-pin head.

A sliding rod, K, is placed upon the top of the draw-head and in close proximity to the coupling-pin, its forward end passing through a small guide-block, L, and its rear end being contained within a suitable box or case, M, and pressed forward by the action of the expansive spring N, which is contained within the said box M. A stud, O, upon the forward end of the sliding rod, by coming in contact with the guide L, limits the forward movement of the said rod and prevents it being shot forward beyond its proper position by the spring N. The rod K is provided with an upward extension, K′, the upper end of which is inclined slightly forward, the degree of inclination being the same as that given to the wedge-shaped lug upon the extension of the coupling-pin.

It should here be remarked that the forward end of the trigger or sliding rod K is projected a short distance in front of the draw-head, for a purpose to be hereinafter more fully explained, and also that the lever-arm F may be provided with a hinge-joint, to permit of lateral vibration or play when the cars are turning short curves.

This device may be operated either by the short cranks E′ upon the side of the car, or by the lever H and connecting-rod G, as may be most convenient to the operator.

Supposing that it is desired to uncouple the cars, the operation will be as follows, to wit: The outer end of the lever-arm F is raised up until it comes to the head of the slot C″ in the extension of the coupling-pin, as shown by dotted lines in Fig. 1, and the lifting operation being continued, the coupling-pin will be raised up out of contact with the link, which may now be withdrawn. As the coupling-pin is raised up, the wedge-shaped lug J upon the extension of the coupling-pin, by pressing against the finger or extension K′ of the sliding rod K, will gradually force the said rod backward, compressing the spring N. As soon as the coupling-pin has been raised sufficiently

high to permit of the butt of the wedge J clearing the point of the finger K′, the expansive power of the spring N will shoot the rod K forward, bringing the point of the finger beneath the butt of the wedge, and thereby supporting the coupling-pin in its raised position when the lever-arm F has been moved back to its original position, which can be easily done, owing to the great length of the slot C″. If a similarly-constructed car having a coupling-link in position in its draw-head be now backed up against the one under consideration, the said link will be entered into the draw-head of the stationary car, and the draw-head of the approaching car will strike against the projecting end of the sliding rod or trigger K and force it back sufficiently far to release the finger K′ from contact with the wedge J, when the coupling-pin C will descend, and, engaging with the link, will firmly couple the cars together.

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

1. In an automatic car-coupling, the coupling-pin C, having an upward slotted extension, C′, provided upon its outer face with an inverted-wedge-shaped lug, J, and guide-rod C‴, engaging in a suitable bracket, D, substantially as shown, for the purpose set forth.

2. The combination, in a car-coupling, of the draw-head B, slotted bracket D, coupling-pin C, having a slotted extension, C′, guide-rod C‴, and tapering lug J, the shaft E, lever-arm F, sliding spring-rod K, having finger K′, and stud O, the guide L, and the casing M, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

LOUIS A. BRANCHAUD. [L. S.]

Witnesses:
C. W. M. SMITH,
CHAS. E. KELLY.