

(No Model.)

J. C. DOERR.
CAR COUPLING.

No. 327,869.

Patented Oct. 6, 1885

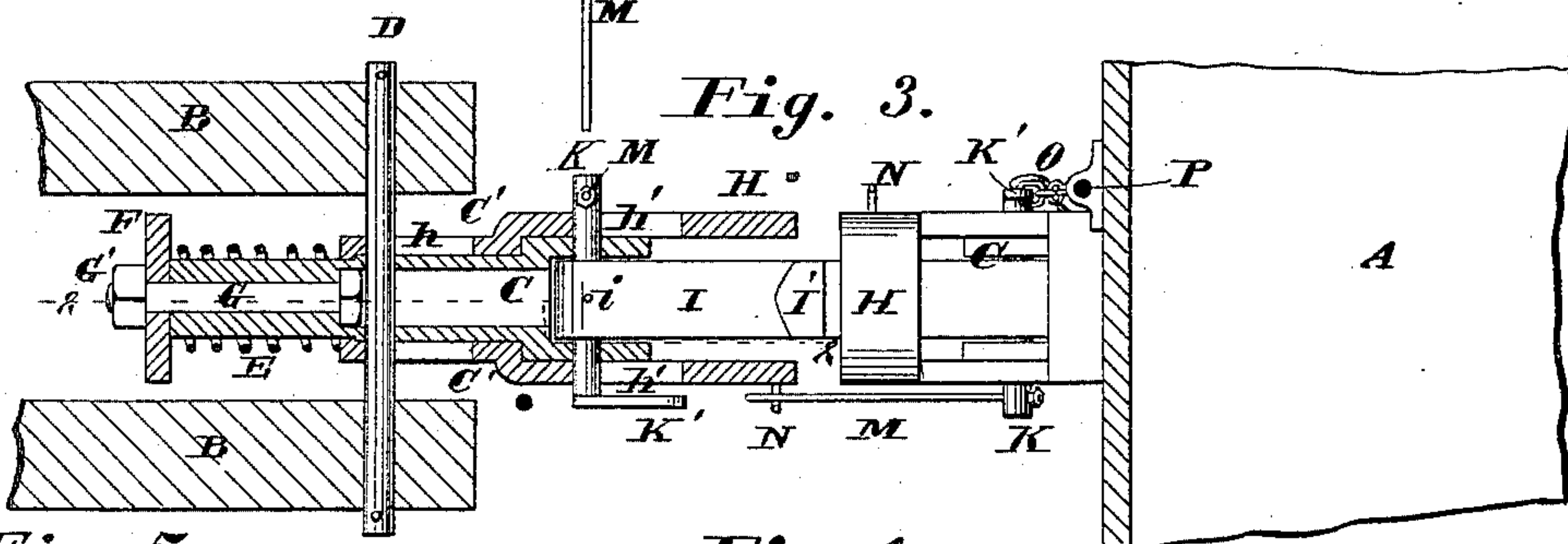
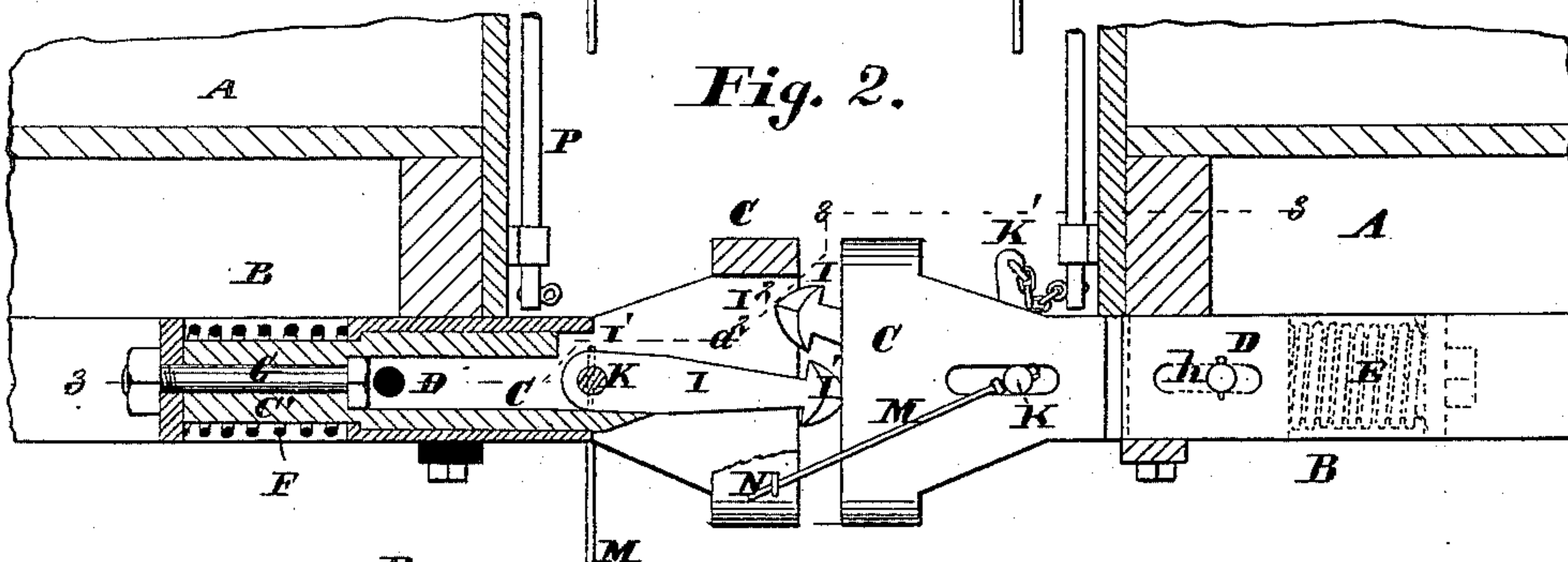
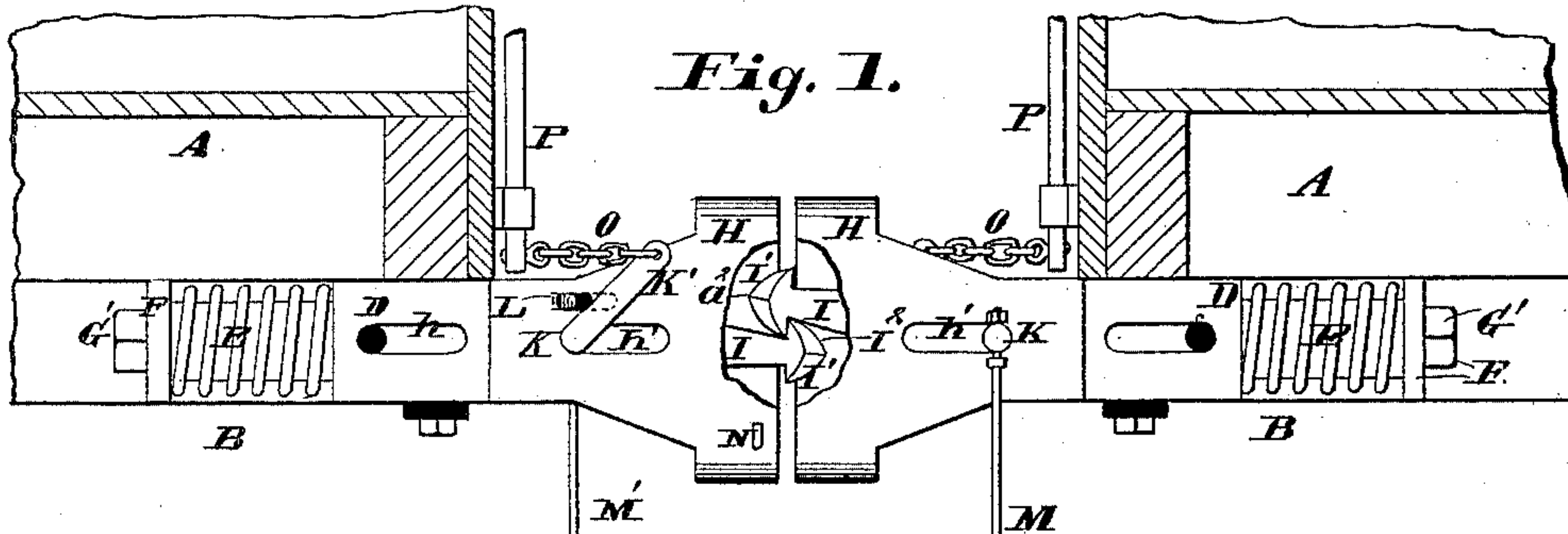
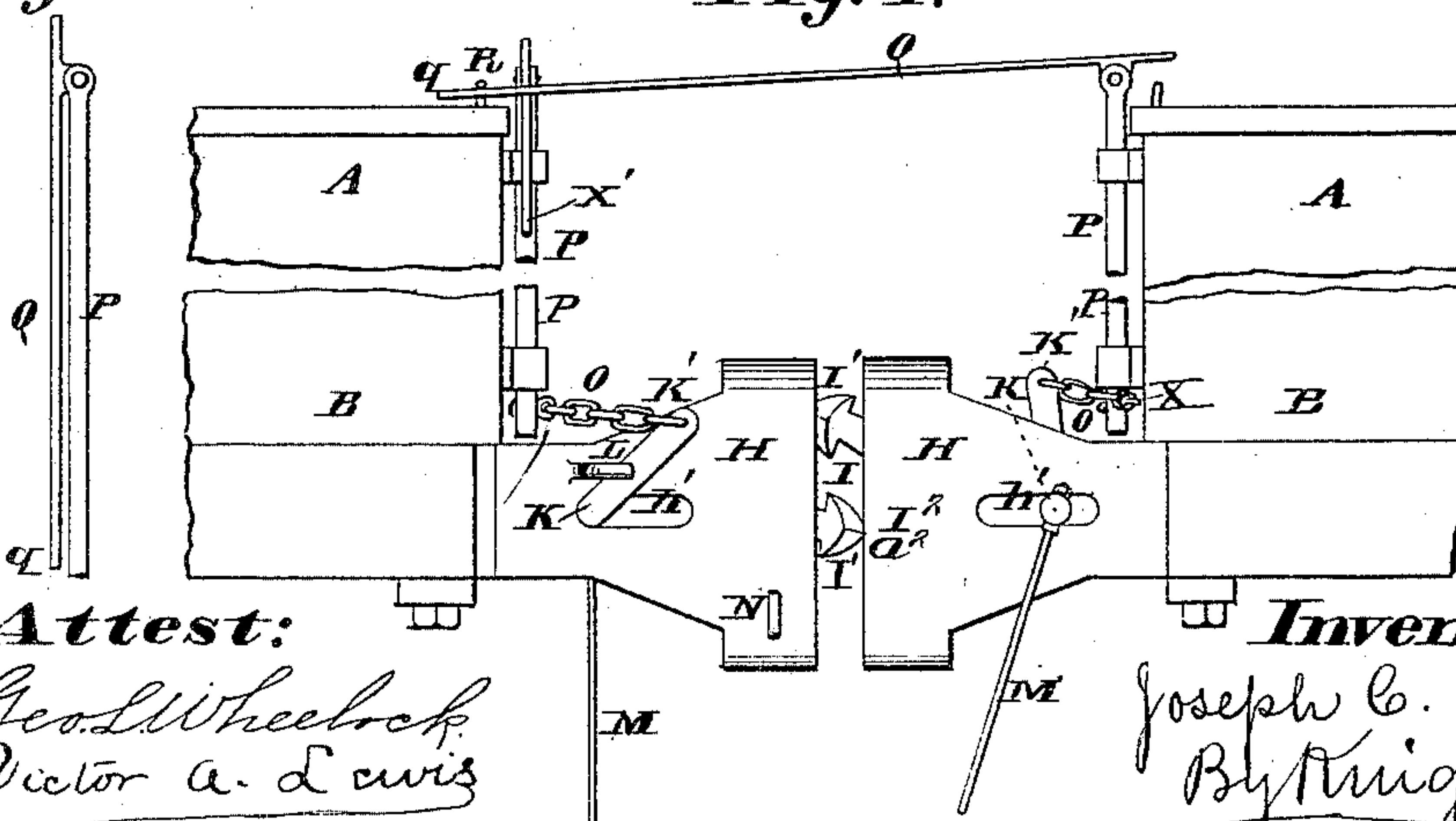


Fig. 5.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 327,869, dated October 6, 1885.

Application filed November 28, 1884. Serial No. 149,035. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. DOERR, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a side view showing two draw-bars coupled together, with parts of the buffers broken out to show the heads of the coupling-hooks. Fig. 2 is part in side view and part in vertical longitudinal section at 22, Fig. 3, showing the coupling-hooks disengaged. Fig. 3 is a horizontal section at 3 3, Fig. 2. Fig. 4 is a side view with parts broken out, showing the hooks uncoupled. Fig. 5 is an enlarged detail showing part of the uncoupling-shaft with its operating-lever (as used upon box-cars.)

The car-bodies are shown at A, and the draft-timbers, to which the draw-bars are secured, at B. The body of the draw-bar is shown at C. This is secured to the draft-timbers by a transverse horizontal bolt, D, traversing the timbers B and the draw-bar C, so that the parts are rigidly connected. The rear or inner end of the draw-bar C consists of a neck, C', upon which is a spiral spring, E, whose inner end bears against a plate, F, secured to the rear end of the neck by a bolt, G, passing axially through the same, and a nut, G', on the bolt. The outer end of the spiral spring bears against the inner end of a buffer, H, that is capable of endwise movement on the draw-bar, being slotted at *h* to allow the passage of the bolt D.

The coupling-hook I is hinged to the outer end of the draw-bar C by a pintle-bolt, K, to which the hook is rigidly connected by a pin, *i*, passing through the hook I and the bolt K. The pintle-bolt K passes through slot *h'* in the buffer. The pintle-bolt has an arm, K', by which the bolt may be turned and the coupling-hook thrown up to disengage it from a similar hook upon the other car.

L is a hook or pin, cast or otherwise formed on the side of the buffer and preventing the upward and inward movement of the arm K' when the buffer is in its advanced position. (See Fig. 4.) Thus it will be seen that when

the arm K' is thrown upward and backward (to disengage the coupling-hooks) the buffer is moved inward against the pressure of the spring E, and thus it will be seen that the spring and the inertia of the buffer both act to prevent the coupling-hook from being thrown up into disengaging position.

It will be understood that the arrow-heads I' of the coupling-hooks engage whichever of the hooks is on top, and that to uncouple the hooks the upper one is thrown up, the under one being allowed to remain at rest.

At the end of the pintle-bolt K is a transverse hole, in which is a rod, M, having sufficient length to extend, when raised, to a pin or hook, N, upon the side of the buffer of the next car. (See Fig. 2.) When the rod M is engaged on the hook or pin N, the coupling-hook with which it is connected is lifted out of engagement with the other coupling-hook, so that the cars can be drawn asunder. This separation of the cars draws the end of the rod M off the hook N and allows the coupling-hook to descend into coupling position as soon as the heads I' are separated, so that they will not engage each other.

It will be observed that the heads I' of the coupling-hooks end in a curved horizontal edge, I², so that either the one or the other will mount on top when the hooks come together, whether the draw-bars may incline to each other or not. In this connection I would say that if the edge I² should be straight and the draw-bars, one or both, transversely inclined, the edges I² of the two coupling-hooks might cross each other and so fail to slip past, thus failing to couple, and being bent or broken where the cars are approaching with usual momentum. These difficulties it is evident would not be present where the head falls back in all directions from a central point, *a*².

O is a chain connected to the end of the arm K' and secured to the hand-shaft P, the arrangement being such that when the shaft is turned the chain is wound upon the shaft and draws the arm K' upward and backward into the position shown at X, Fig. 4. When the parts are in this position, the free end *q* of a rod, Q, hinged to the top of the hand-shaft, may be made to engage with a pin or hook, R,

upon the adjoining car, so that the separation of the cars shall draw the free end of the rod Q from its engagement with the hook R and the hand-shaft P be allowed to turn as the chain O is uncoiled from it by the weight of the coupling-hook and the force of the spring E acting through the buffer, hook L, and arm K' upon the coupling-hook. When the rod Q is released from its connection with the adjoining car, it falls into a vertical position, as seen at X', Fig. 4, and at the same time the coupling-hook attains a position for automatic coupling with another hook on the approach of the cars.

15 I claim as my invention—

1. The combination of draw-bar having hinged coupling-hook and a spring-buffer movable on the draw-bar, and having bearing upon an arm of the coupling-hook to hold it in engagement with the coupling-hook of the other car.

2. A car-coupling hook constructed to automatically couple with a similar hook of an approaching car and a rod or equivalent device
25 constructed to retain the hook in uncoupling position by engagement with the adjoining car.

3. The combination of the coupling-hook working in a vertical plane and an arm extending from the pivot-bolt of the coupling-hook engaged by a projection of a buffer working on the draw-bars, and a spring forcing the buffer-projection against the arm of the coupling-hook, substantially as and for the purpose set forth. 30

4. The combination, with the pintle fixed to a gravitating coupling-hook, of an arm or rod upon said pintle constructed to engage with an adjoining car directly or through intermediate mechanism, for the purpose set forth. 35

5. In a car-coupling, an automatic coupling-hook and suitable mechanism extending from the coupling-hook and engaging with the adjoining car and constructed to hold the coupling-hook out of engagement with the coupling device of the adjoining car. 40

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In presence of—

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