

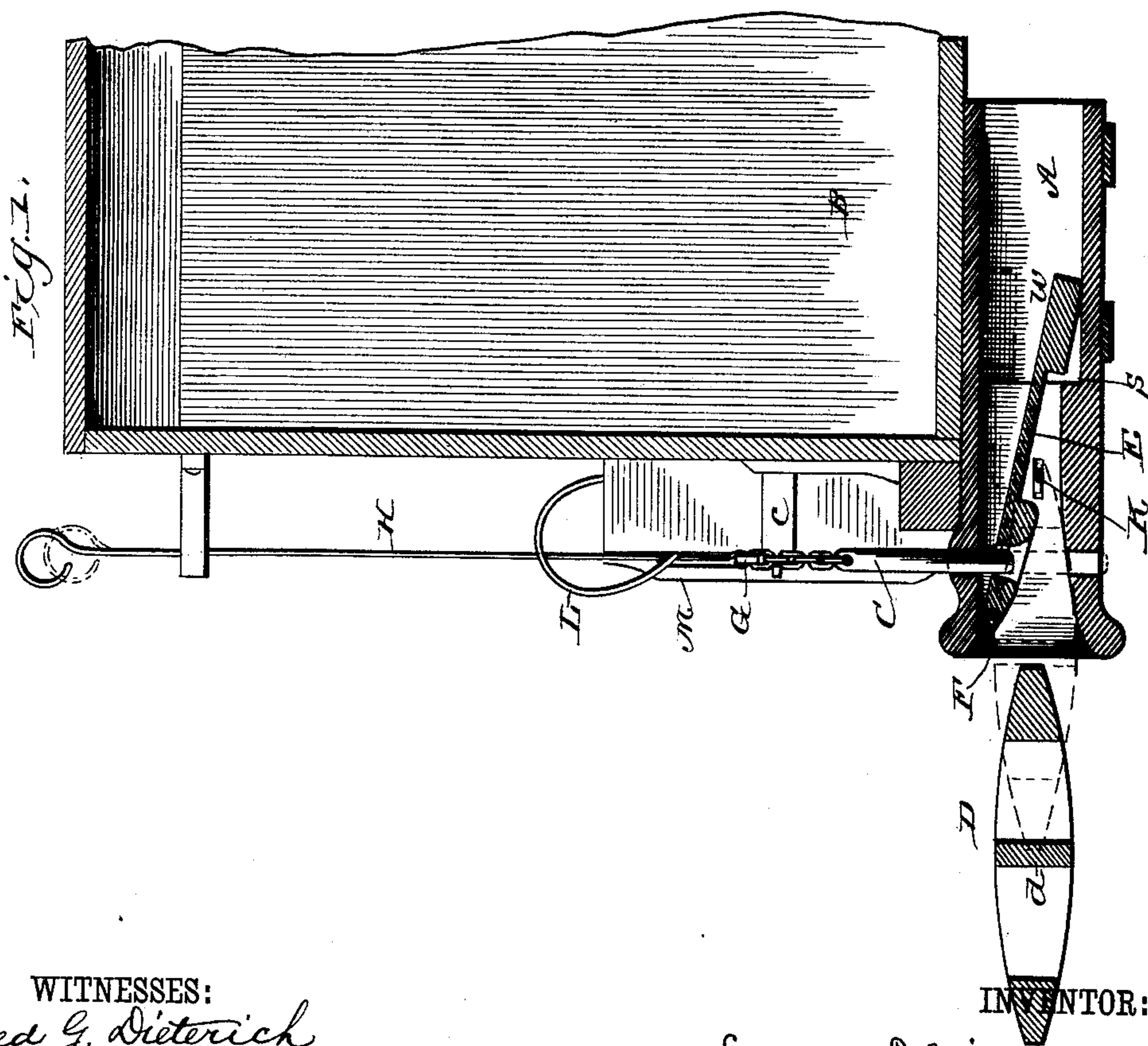
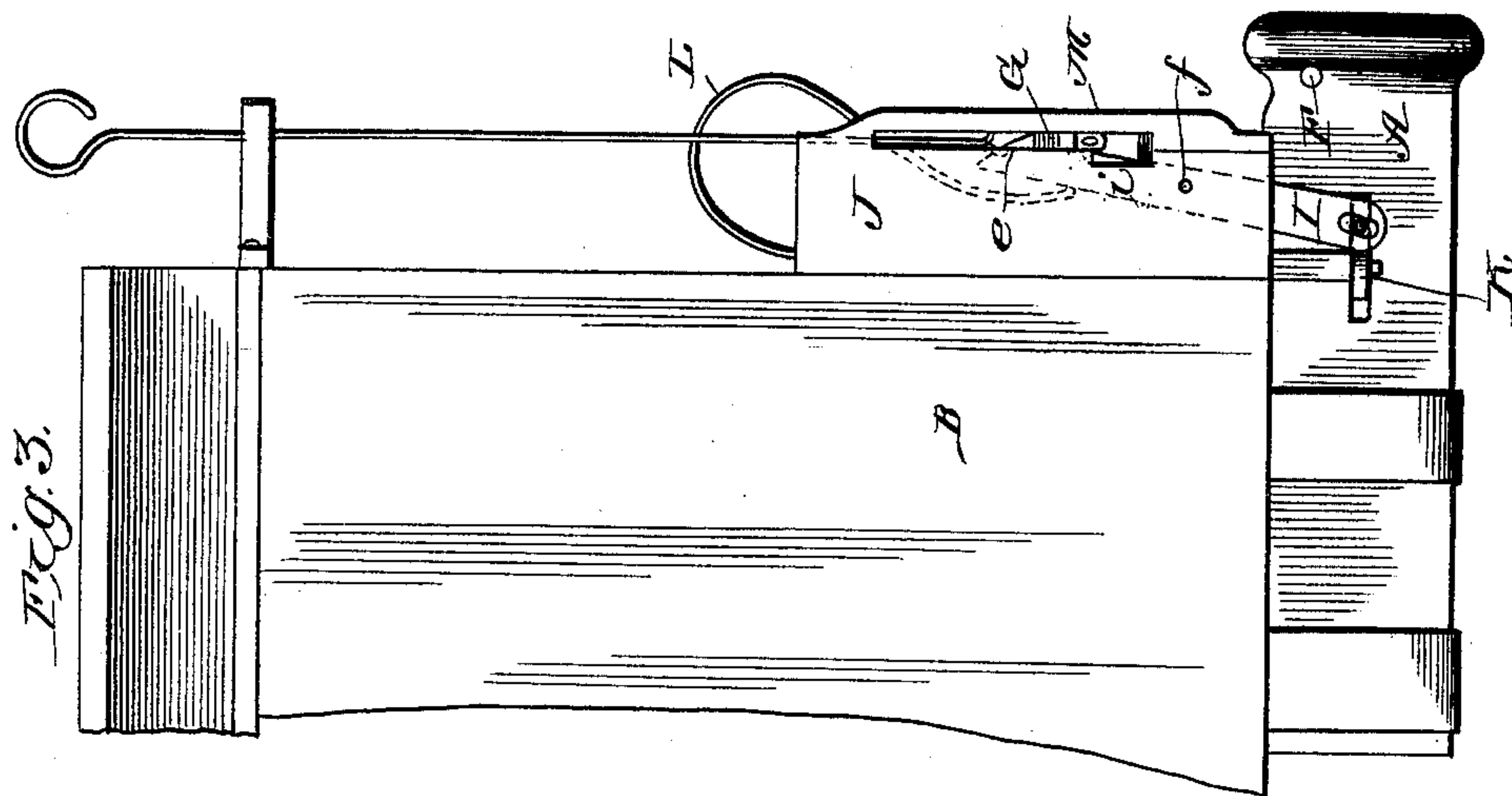
(No Model.)

2 Sheets—Sheet 1.

E. E. MILLER.
CAR COUPLING.

No. 406,930.

Patented July 16, 1889.



WITNESSES:

Fred G. Dieterich
Edw. W. Byrn.

INVENTOR:

Edward E. Miller
BY *Wm. V. G.*
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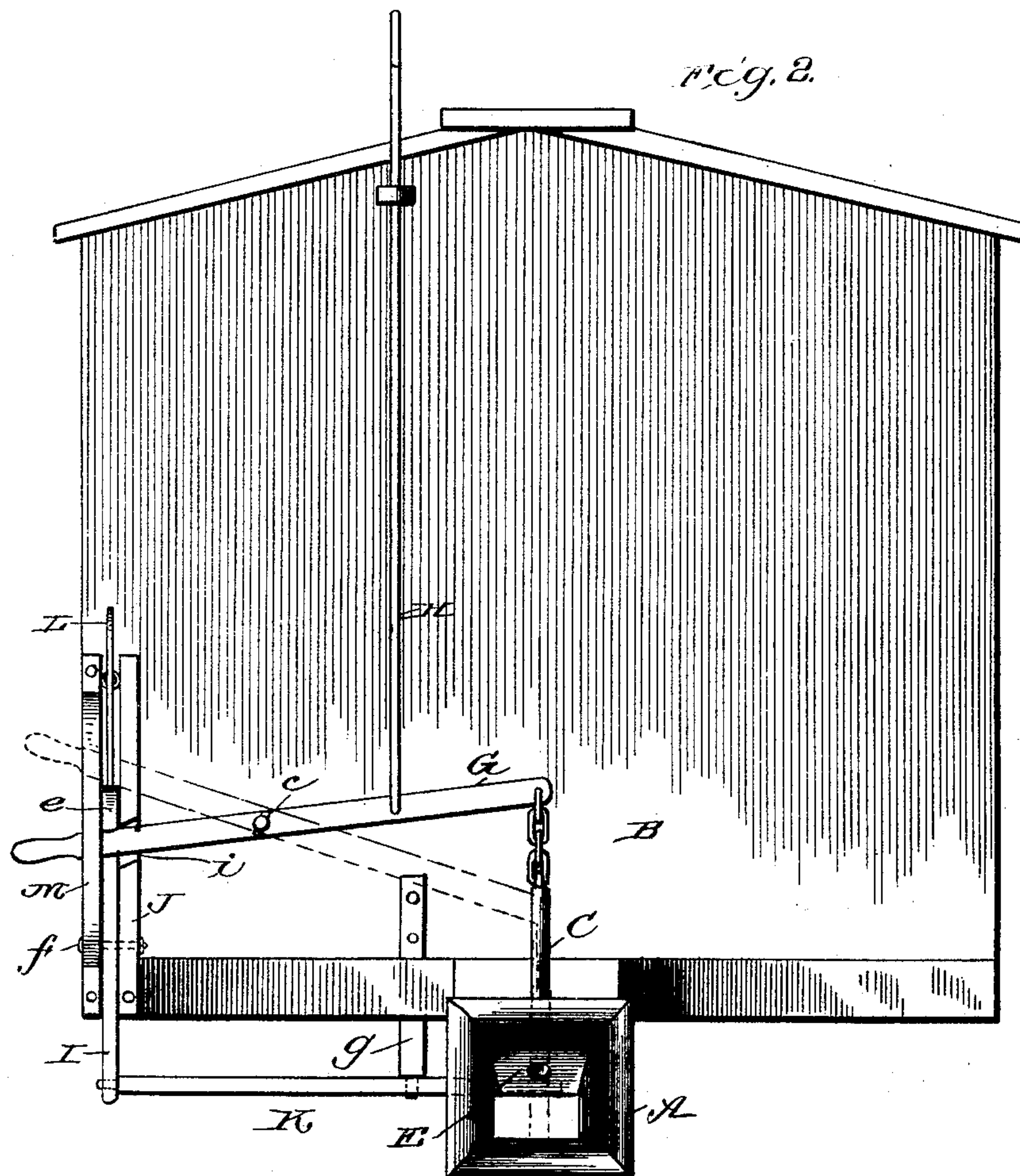
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UNITED STATES PATENT OFFICE.

EDWARD E. MILLER, OF AVENUE CITY, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 406,930, dated July 16, 1889.

Application filed November 9, 1888. Serial No. 290,347. (No model.)

To all whom it may concern:

Be it known that I, EDWARD E. MILLER, of Avenue City, in the county of Andrew and State of Missouri, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention is in the nature of a novel car-coupling designed to automatically couple cars without the necessity of going between the cars; and it consists in the peculiar construction and arrangement of coupling devices, which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section through the draw-bar. Fig. 2 is an end elevation, and Fig. 3 is a side elevation.

A represents the draw-bar, which may be spring-seated and connected to the body B of the car in the usual or any approved manner. Through the top and bottom of the front end of the draw-bar is arranged the pin-hole in which works the coupling-pin C.

D is the link, which is made tapering at each end somewhat after the shape of a shuttle, and for greater strength has its two sides connected and braced by a cross-bar *d*. The link is made with tapering ends to facilitate its entrance into the throat of the draw-bar and to give the link free lateral motion when the draft strain is exerted. To hold this link horizontal, so that its outer end shall be in line with the opposite draw-bar, a plate E is hung in the top of the draw-bar at its front end upon a horizontal bolt F, the hole being a little larger than the bolt, so as to give a loose connection that allows the plate to gravitate freely, and also to let the plate strike the top of the draw-bar without straining the bolt. This plate extends back past the shoulders *s* of the throat in the draw-bar and in this chamber is enlarged to form a weight *w*, which causes the plate to bear firmly on the inner end of the link and hold the latter horizontal. This plate has a hole through it to permit the free play of the pin.

To hold the pin up for automatic coupling, it is connected by a chain to a lever G, which is fulcrumed at *c* upon a support on the end of the car. The outer end of this lever projects as far as the side of the car and forms

a handle for raising the pin without going between the cars. Between the fulcrum of this lever and the pin there is also a rod H, that extends vertically to the top of the car, so that the pin may also be raised by the brakeman from the top of the car. This rod is placed a little to one side of the middle of the car, so as not to present any obstruction to the brakeman in stepping from the foot-board of one car to the next. To lock this lever in place and yet hold it so that it can be automatically tripped when the cars come together, a vertical lever I is provided, which has a hook-shaped catch *e* at its upper end and is fulcrumed at *f* between two vertical bars J J on the end of the car. This catch-lever I is jointed at its lower end to a horizontal trip-lever K, fulcrumed upon a support *g*. The end of this horizontal lever enters a slot in the side of the draw-bar and projects into the throat of the draw-bar directly across the path of the link. The upper end of the catch-lever is forced forwardly by a spring L, and this also serves to hold the end of the trip-lever K which is in the draw-bar to its front position, where it may be struck by the entering link. The vertical bars J J have just below the hand-lever a notch *i*, large enough to receive the hand-lever, and into which said lever may be placed for the purpose hereinafter described. This lever is also inclosed and prevented from moving out by a keeper or yoke M.

Both cars are designed to be provided with the same kind of coupling devices, and their operation in coupling and uncoupling is as follows: The coupling-pin is raised by means of the hand-lever G, the outer end of which is brought down until the hook-catch of the lever I springs out over the same and locks it down, as in Figs. 2 and 3, thus holding the pin up, and the end of horizontal trip-lever K (in the draw-bar) to the front. Now, when the link of the other car enters this draw-bar it strikes the trip-lever K, (see dotted lines, Fig. 1,) and, forcing it to the rear, throws the bottom of the vertical catch-lever I to the front. This causes its upper end bearing the hook to move to the rear and off of the hand-lever, whose end next to the pin, being the heavier, falls with the pin, allowing the latter to drop

through the link and couple the cars. For uncoupling this may be accomplished either from the side or the top of the car by simply raising the end of the lever which carries the pin and locking it in this position; but as the trip-lever is liable to be accidentally forced back by the link in slacking up the couplings the notch *i*, Fig. 3, is provided, which forms a positive-locking seat for the hand-lever, so that when the hand-lever is forced into this notch the brakeman need not stay until the cars are pulled apart, but may go about his business, since with this provision the action of the link on the trip-lever does not throw the pin until the cars are to be coupled again. When the cars do pull apart, the link in leaving the trip-lever allows the spring to force the top end of the catch-lever forward, which first pushes the hand-lever out of the positive-locking notch and then catches over the top of the lever, ready for automatic coupling again.

With the form of coupling as thus described it will be seen that if any portion of the same should become broken or inoperative the pin may be disconnected from the hand-lever and used with the same efficiency and in the same manner as the ordinary pin-and-link couplings.

Cars equipped with my coupling are also adapted to couple with cars of the ordinary construction, thus enlarging their field of usefulness.

Having thus described my invention, what I claim as new is—

1. The combination, with the draw-bar having an opening in its side, of a horizontal trip-lever K, having its end projecting into the link-throat, the vertical lever I, having a hook at its upper end, a horizontal hand-lever fulcrumed to the end of the car and having on the inner side a loosely-connected coupling-pin, and a rod extending to the top of the car, the outer end being formed as a handle and arranged to engage with the catch-lever, substantially as described.

2. The combination, with the draw-bar having an opening in its side, of the horizontal trip-lever K, having one end projecting into the link-throat, the vertical lever I, having a hook at its upper end, a horizontal hand-lever supporting the coupling-pin, a spring arranged behind the catch-lever, and a positive-locking seat for the hand-lever arranged beside the catch-lever, substantially as and for the purpose described.

3. The combination, with the draw-bar having a contracted throat with pin-holes and shoulders *s*, of a perforated plate E, hung upon a horizontal bolt at the upper front end of the draw-bar and having its rear end extended past the narrow portion of the throat and weighted at its rear end, as described, to hold the link horizontal.

EDWARD E. MILLER.

Witnesses:

L. E. NUCKOLS,
T. J. KELLEY.