

I. L. VANSANT.

Car Coupling.

No. 88,424.

Patented March 30, 1869.

Fig. 1

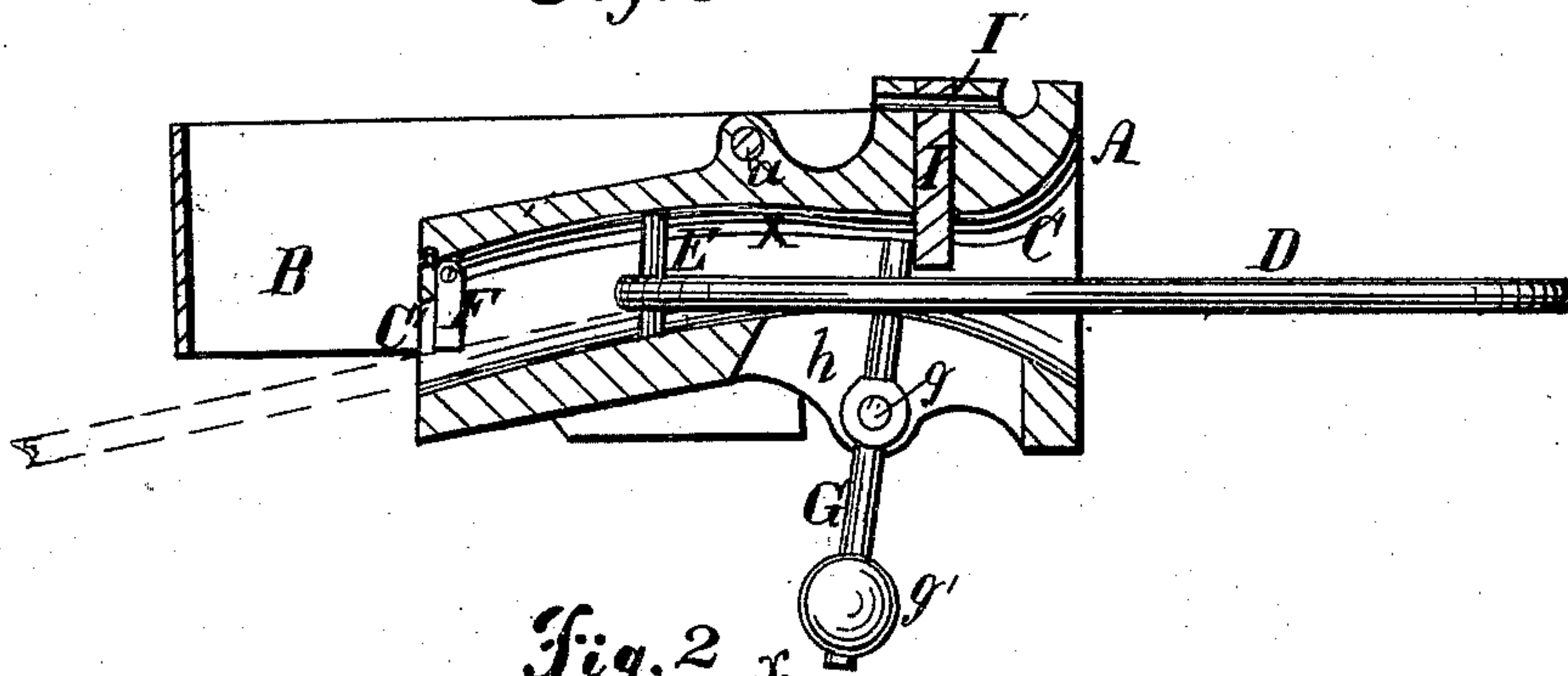


Fig. 2

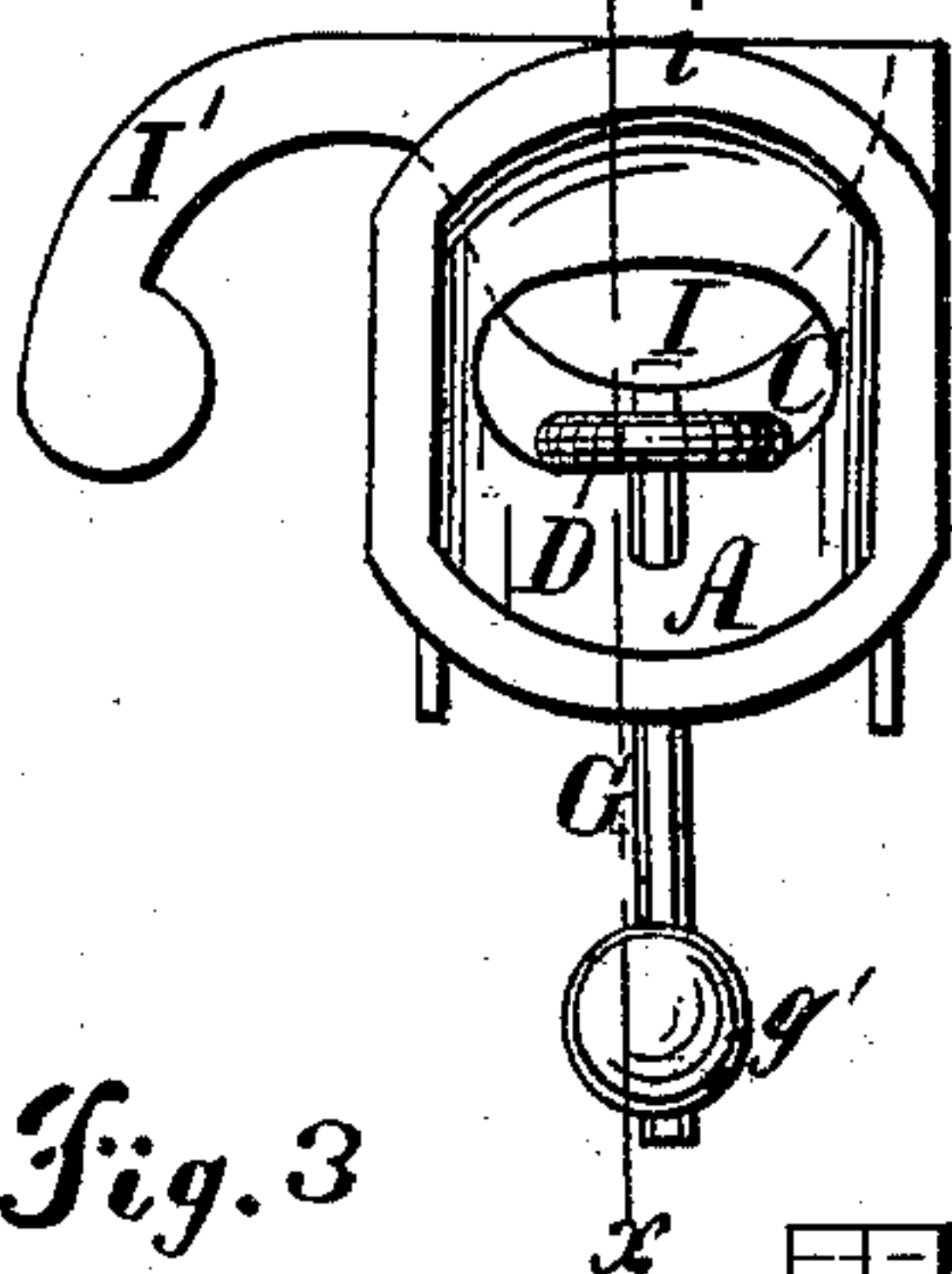
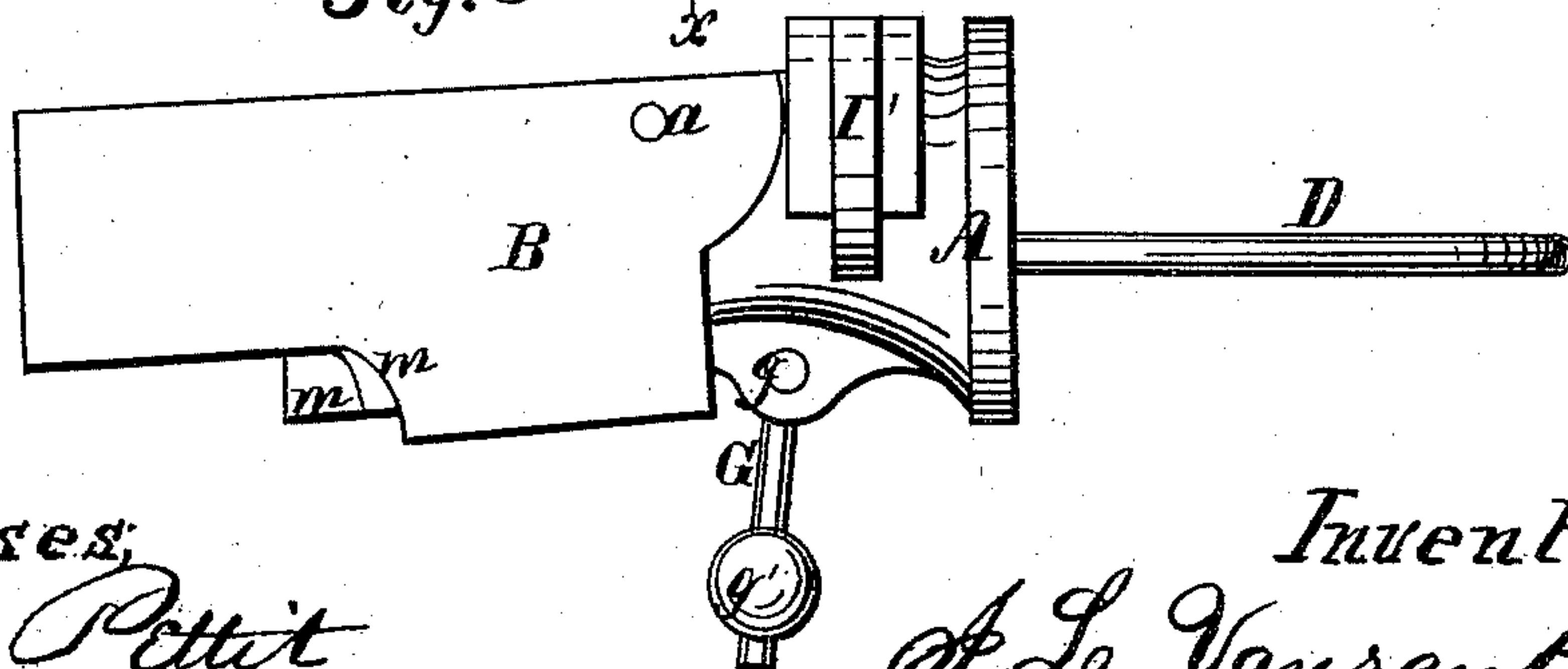


Fig. 3



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ISAAC L. VANSANT, OF GLASGOW, DELAWARE.

Letters Patent No. 88,424, dated March 30, 1869.

IMPROVED CAR-COUPLING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ISAAC L. VANSANT, of Glasgow, in the county of New Castle, and State of Delaware; have invented a new and improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section.

Figure 2 is a front view.

Figure 3 is a side view.

The object of this invention is to provide, for public use, a simple, cheap, and effective automatic car-coupling, constructed so as to avoid the use of springs of any kind, and operating in the manner hereinafter set forth.

In the drawings—

A represents the draw-head, which is pivoted, at *a*, to a cast or wrought-iron plate, B, of the U-form, adapted to be properly affixed to the car, so as to leave the draw-head at liberty to rock slightly, say about four inches, upon its horizontal trunnions.

Any kind of stop, as at *m m'*, fig. 3, may be employed to limit the extent of this motion.

The cheapest device for the purpose will probably be the cast projection *m* upon the draw-head, operating in the angle *m'* of the plate B, in the manner clearly shown by the drawing.

The draw-head is provided with the usual longitudinal opening, C, expanded at its mouth, and extending in a horizontal direction from the front end to a point, *z*, not far from the line of the trunnions.

From this point to the rear end of the draw-head, however, the cavity C slightly declines, finally terminating in the rear opening, C'.

E is the coupling-link, through the central opening in which extends a fixed bolt, E, which confines the link permanently to the draw-head.

F is a short, stout block, articulated to the upper edge of the opening C, so as naturally to hang in the position shown in dark lines, in fig. 1, but to be capable of folding up against the top plate of the draw-head, as shown in red lines in the same figure.

When hanging vertically, its back is in contact with a flange, *o*, cast upon the rear end of the draw-head, for the purpose of limiting the movement of the block.

The hanging block, thus constructed and attached, is designed to operate as a stop to hold the link in position, and insure coupling.

When, however, the link of this draw-head is not to be used in coupling, the block F is, by hand, turned up under the roof of the chamber in which it operates, and the link D is drawn back to the position shown by the red lines, its rear end projecting from the opening C'.

Each draw-head on every car is to be provided with the permanently-attached link D. Of course, only one link will be used at any time, and when one is in use,

it will be held as shown by the dark lines of fig. 1, while the link of the opposite draw-head will be placed in the position shown by the red lines of the same figure.

The coupling-pin is shown at G, it being a gravitating lever, pivoted upon a horizontal bolt, or trunnions, at *g*, and, at its lower end, provided with a weight, *g'*, which keeps it in proper position.

The upper arm of the lever projects up across the interior chamber of the draw-head.

The lever is hung in a slot, *h*, cut through the bottom of said chamber, so that it can swing freely on its fulcrum.

In connection with this lever is an eccentric, I, pivoted to the upper part of the draw-head, at *i*, and provided with an arm, I', which may be weighted at its outer end, and by which it can be conveniently rocked on its pivot.

When the arm I' is in a horizontal position, that part of the eccentric disk farthest from the pivot, projects down through a slot into the central chamber, C, just in front of the lever G, and interrupts the action of the latter, preventing its upper arm from passing the disk.

In coupling, the link of the opposite draw-head strikes the upper arm of lever G, throws it back, and passes into the chamber, toward the bolt E and link D. Meanwhile, it having passed the end of the lever, the latter, by its own gravity, resumes a vertical position, after which it is impossible for the link to be withdrawn, until the eccentric is removed by lifting the arm I'. That having been done, the lever swings in the opposite direction as readily, to give egress to the link, as it had done to give it ingress.

The whole device is very simple, and convenient of operation, being adapted to allow of the instantaneous uncoupling of the cars, on any kind of grade, and when in rapid motion, a fact which gives it peculiar advantages in switching off cars on to a siding, enabling such operation to be easily performed, without stopping the train.

It has no springs to be constantly getting out of order.

All the parts can be made of sufficient size to be strong and durable, while the whole apparatus does not necessarily increase the size or weight of the draw-head to any material extent.

By means of the swinging draw-head, the device is adapted to automatically couple cars of different heights, without difficulty, the draw-head readily accommodating itself to the position of the opposite link.

This apparatus may be applied to any of the cars now in use. It has already been applied upon some of the railroads in this country, and is found to work admirably in every respect.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The gravitating coupling-pin G, pivoted to the draw-head at g, in combination with the lever I, arranged across the draw-head, and having an eccentric head, or disk, which projects down into the cavity thereof, substantially as shown and described, and for the purposes specified.

2. The pivoted block F, when constructed and applied to the draw-head in the manner described, and adapted to operate in connection with the stop o and the link D, as and for the purpose set forth.

3. The combination of the vertically-rocking draw-head with the supporting-plate B, and a stop for limiting the motion of the draw-head, substantially as described, and for the purpose set forth.

ISAAC L. VANSANT.

Witnesses:

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