

J. T. Stoakes.

Car-Coupling.

N<sup>o</sup> 72933

Patented Dec. 31, 1867.

Fig. 1.

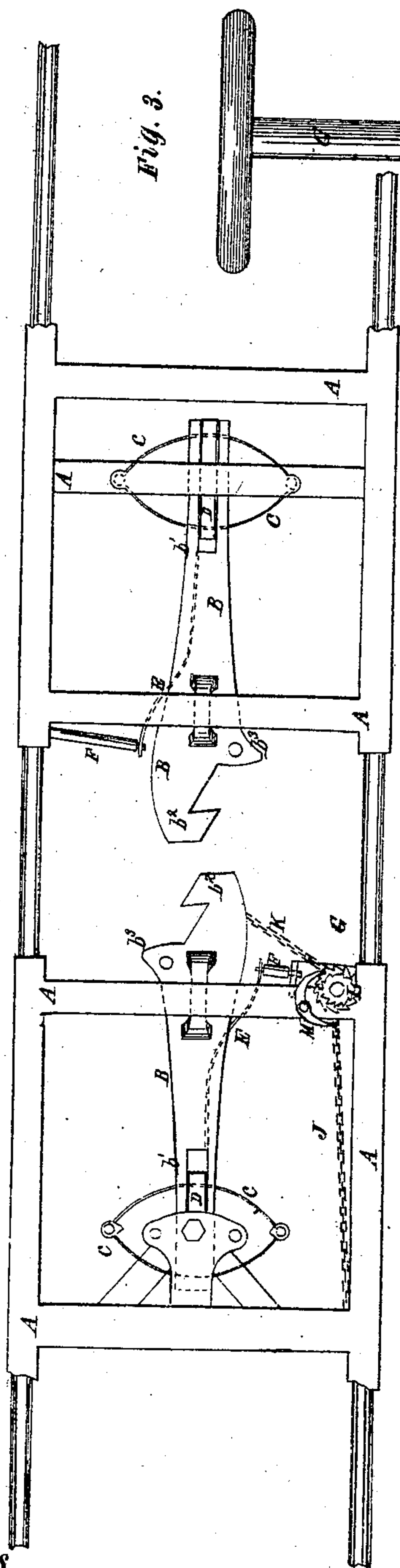


Fig. 2.

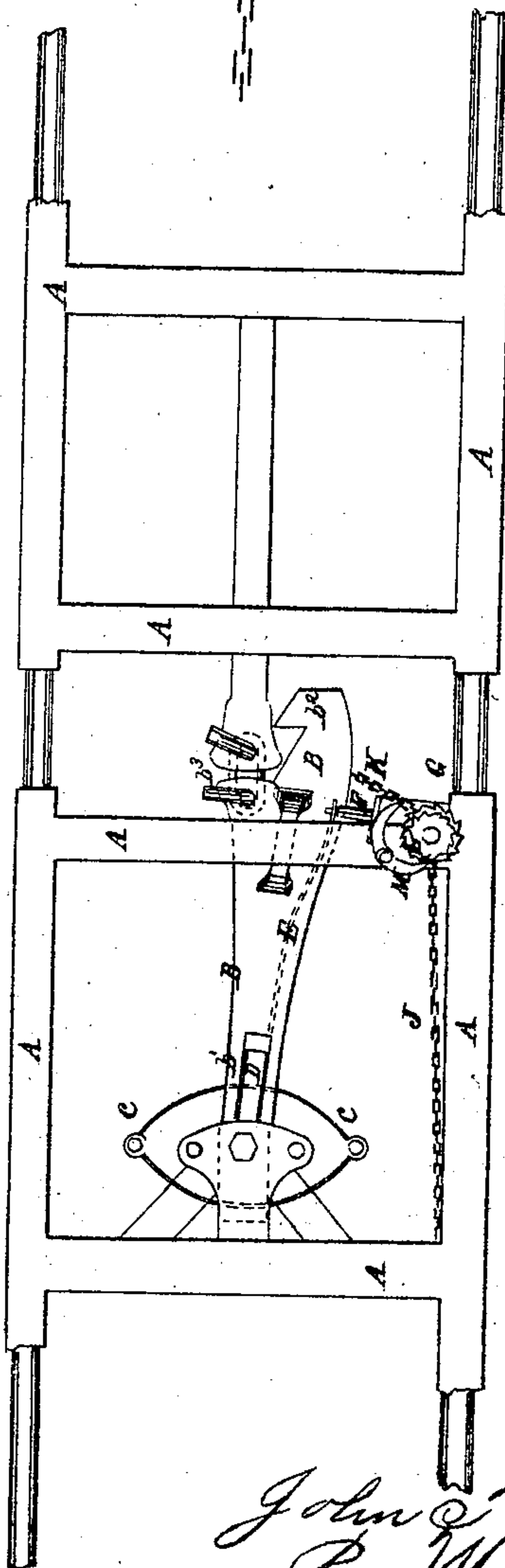
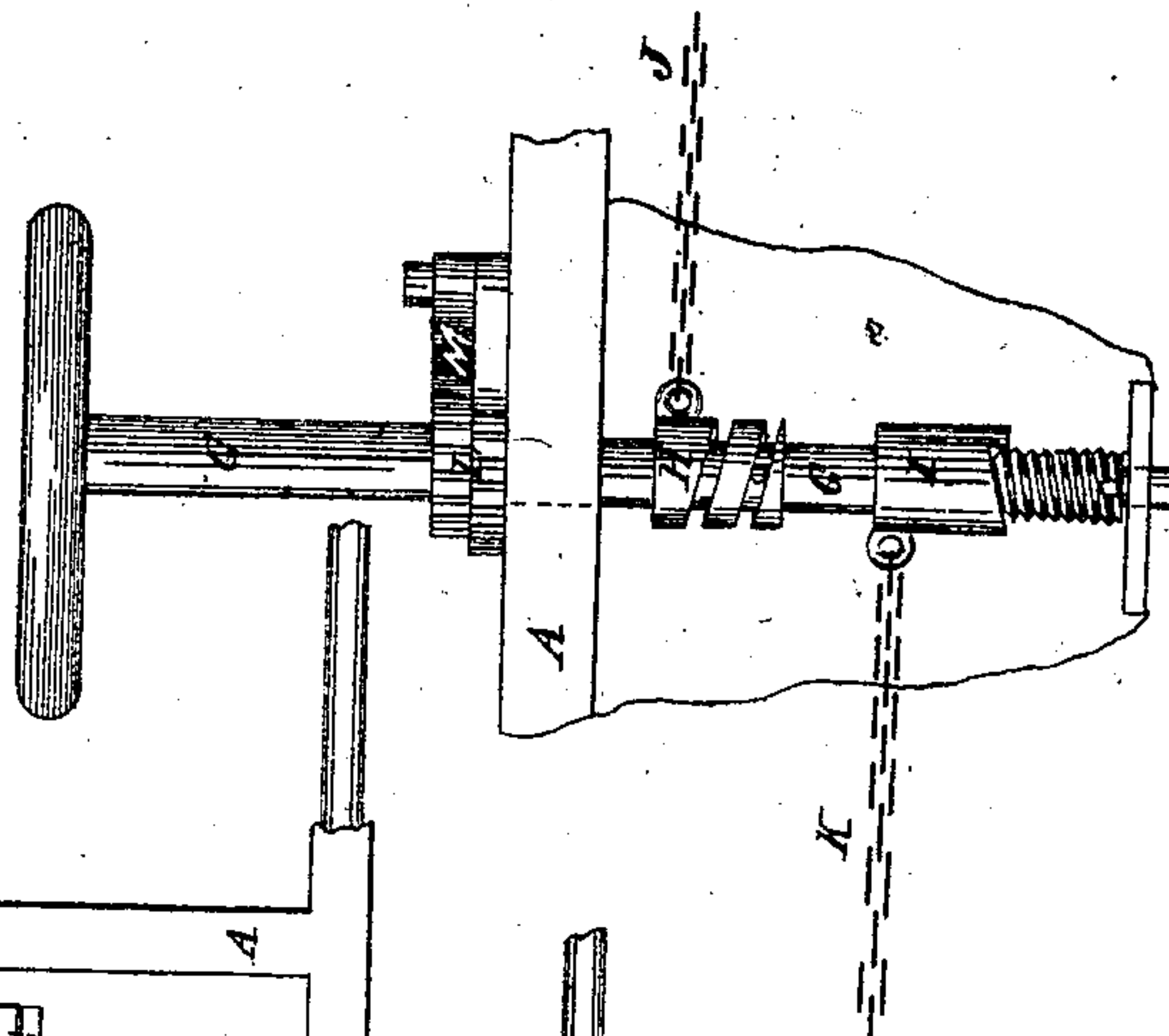


Fig. 3.



Witnesses.

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JOHN T. STOAKES, OF PARISH OF NEW CHURCH, ENGLAND.

*Letters Patent No. 72,933, dated December 31, 1867.*

## 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, JOHN T. STOAKES, of parish of New Church, county of Kent, England, have invented a new and useful Improvement in Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 illustrates the construction and operation of my improved car-coupling.

Figure 2 shows how my improved coupling may be coupled to an ordinary bumper-head.

Figure 3 is a detail view of the vertical shaft and hand-wheel by which the cars are uncoupled and the brakes applied.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved car-coupling, which shall be self-coupling, which cannot become accidentally uncoupled while the cars are upon the track, which will at once uncouple itself should the car or cars be thrown from the track, and which can be easily and quickly uncoupled when desired, even should the train be in rapid motion; and it consists in the manner in which the bumper-bar is attached to the truck, in the combination of the side spring and bar with the bumper-bar, for holding the said bar in proper position while the cars are coupled, in the form of the bumper-head, and in the construction of the vertical shaft and collars by which the cars are uncoupled and the brakes applied, the whole being constructed and arranged as hereinafter more fully described.

A represents the truck-frames, about the construction of which there is nothing new. B are the bumpers, the rear ends of the bar  $b'$  of which are slotted horizontally, for the reception of the elliptic springs C, and they are also slotted vertically, for the reception of the pivoted bar D, to which the said springs are attached. The bar D is pivoted to the frame of the truck, or to suitable supports attached to said truck-frames, according as their construction may render most convenient. The springs C are passed through a horizontal slot in said bar, and through a horizontal slot in the rear end of the bumper-bar  $b^1$ , and are securely attached at their middle parts to the ends of the bar D.

By this construction the strain, both in drawing and pushing, comes upon the elasticity of the springs C, and the bumper-head or hook  $b^2$  is enabled to be drawn aside for uncoupling the cars, or for any other desired purpose.

The forward end of the bumper B is held in a horizontal position by a strap or keeper attached to the truck-frame, and passing through a keeper attached to the upper side of the bumper-bar, or passing beneath said bumper-bar, as may be convenient or desired.

The forward end of the bumper-head is made square, or nearly so, and has a hook formed upon its side, the face of which is made inclined, as shown in the drawings. At the base of the cavity that forms the hook is formed a shoulder,  $b^3$ , against which the end of the hook or bumper-head of the adjacent car strikes. Each bumper-head has thus two points of concussion, the end of the hook  $b^2$  and the shoulder  $b^3$ . The shoulders  $b^3$  have cavities formed in them, for the reception of an ordinary coupling-link, which is secured in place by a pin in the ordinary manner. This enables an ordinary bumper-head to be conveniently coupled to my improved bumper-head, as shown in fig. 2.

When two cars, with my improved bumpers attached, come together, the inclined faces of the hooks  $b^2$  strike against each other, and force each other apart until the points of the hooks have slipped past each other; the springs E then force the bumper-heads forward, interlocking the hooks and coupling the cars. The rear ends of the springs E are attached to the sides of the bumper-bars  $b^1$ , and their forward ends rest against the ends of the supporting-bars F, the other ends of which are connected to some suitable support attached to the truck-frames A.

G is a vertical shaft, working in bearings formed in or attached to the truck-frame, and which is operated by a hand-wheel attached to its upper end. Upon the shaft G, below the platform of the car, are placed two ratchet-collars H, having spiral threads or slots formed in them, running in opposite directions, as shown in fig. 3. In case a spiral thread is cut in the said collars, a similar thread should be cut upon that part of the shaft G upon which they work.



When the shaft G is revolved in one direction, it carries one of the said collars with it, by means of a stop or projection formed upon or attached to the said shaft, and striking against a shoulder formed upon the lower edge of said collar, or against the end of the spiral slot or groove, and raises the other collar in proportion to the number of revolutions of the shaft, so that, upon releasing or reversing the said shaft, the collars return to their proper positions, and are ready for action in either direction.

One of the collars, as H, is connected with the brake by a chain, J, and the other, I, is connected with the bumper-head B, as shown in the drawings, so that, by turning the shaft G in one direction, the brake will be applied, and by turning it in the other direction the cars will be uncoupled, which uncoupling can be done even when the train is in rapid motion.

L is a double ratchet-wheel, attached to the shaft G just above the platform of the car, the teeth of which point in opposite directions. M is a double pawl, each part of which is so formed as to take hold of one set of teeth of the double ratchet-wheel L, so that the shaft may be held from revolving in either direction, when required.

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

1. The construction and arrangement of the slotted pivoted bar D, elliptic springs C, and bumper-bar  $b^1$ , substantially as described, for the purpose specified.

2. The shoulder  $b^3$  of the bumper-head, with a link-socket to receive the link of an ordinary car-coupling, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the two collars H and I with the vertical shaft G, the said collars and shaft being constructed and arranged substantially as herein shown and described, so that the cars may be uncoupled and the brake applied by operating the same shaft.

The above specification of my invention signed by me, this 22d day of February, 1867.

JOHN T. STOAKES.

Witnesses:

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