

W. R. JENKINSON.

AUTOMATIC COUPLING FOR RAILWAY AND LIKE VEHICLES.

APPLICATION FILED APR. 25, 1904.

2 SHEETS—SHEET 1.

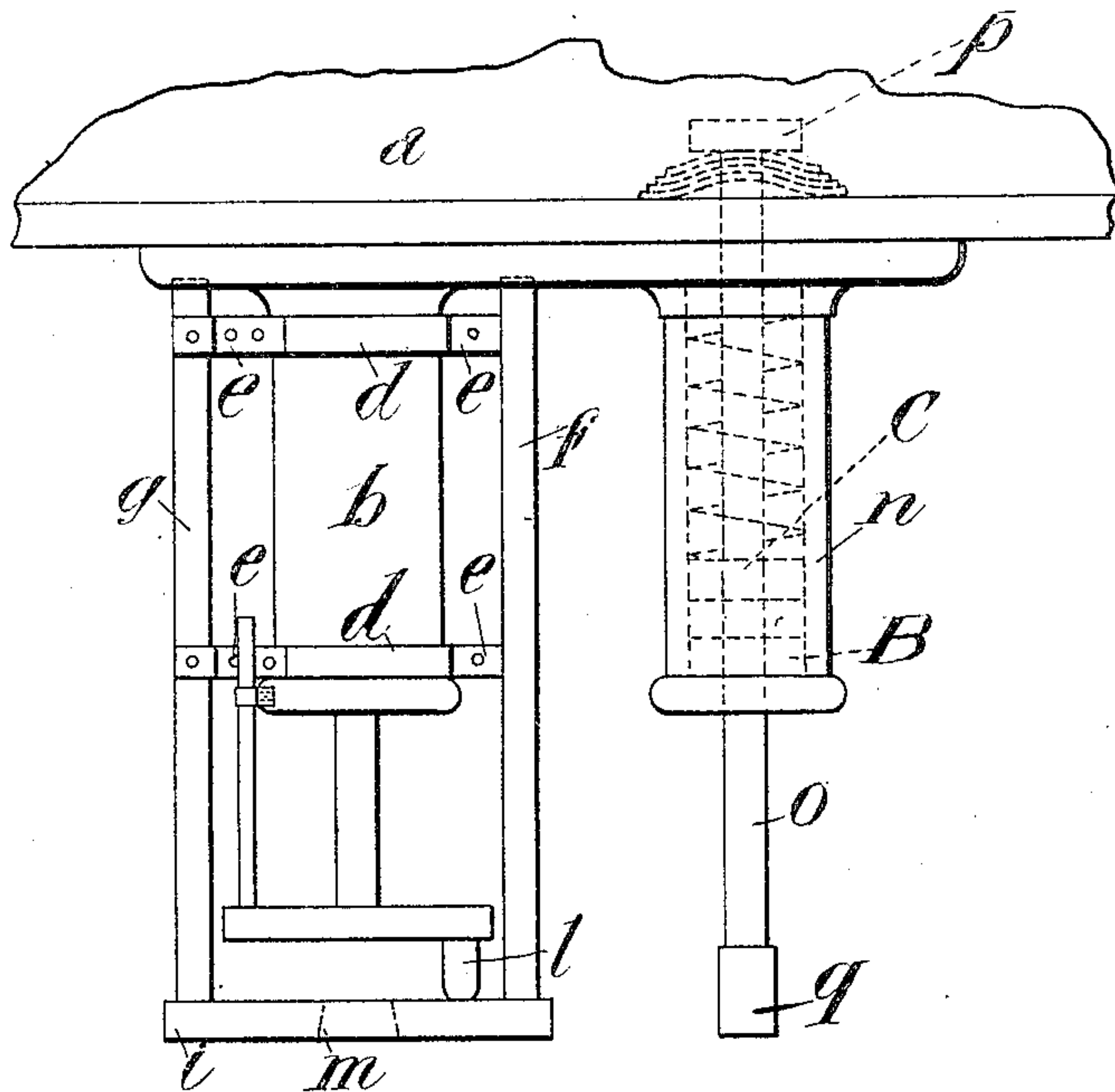


Fig 1.

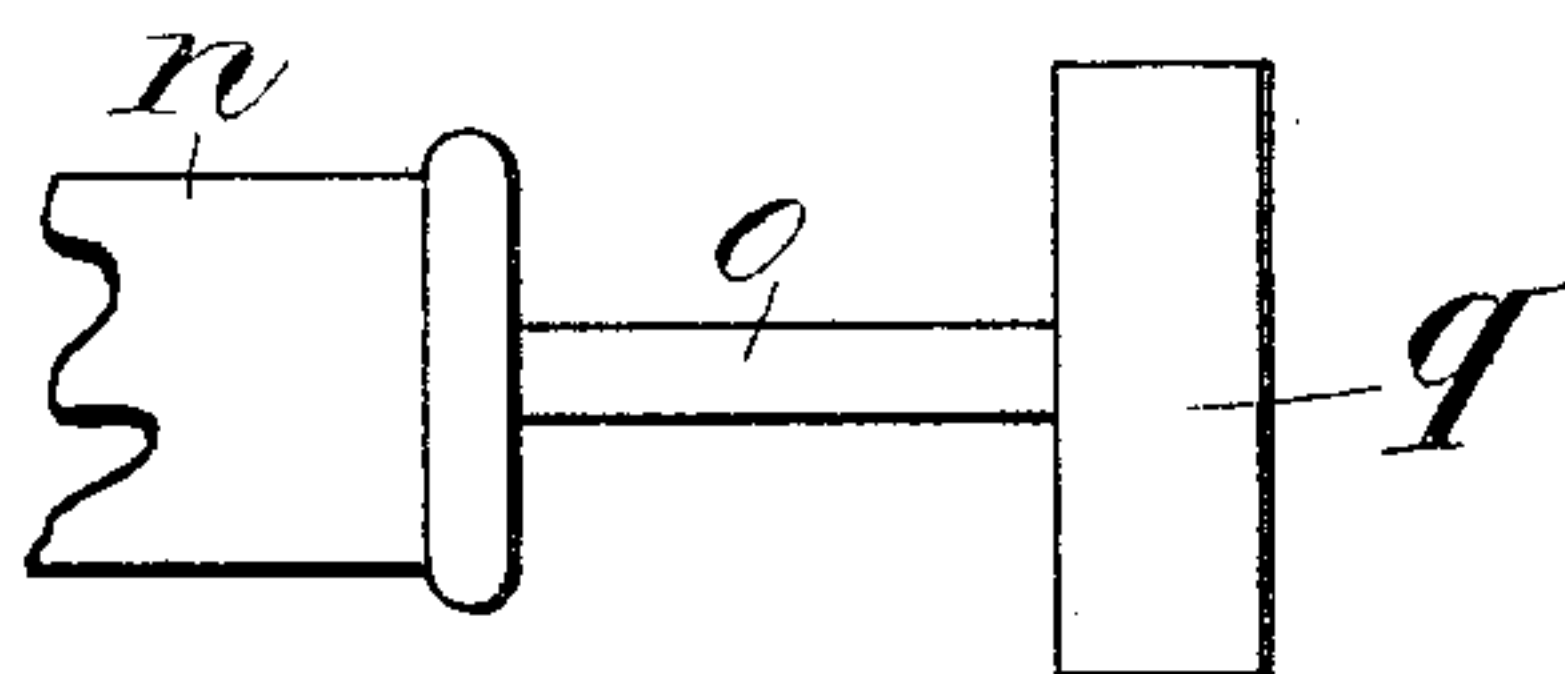


Fig. 6.

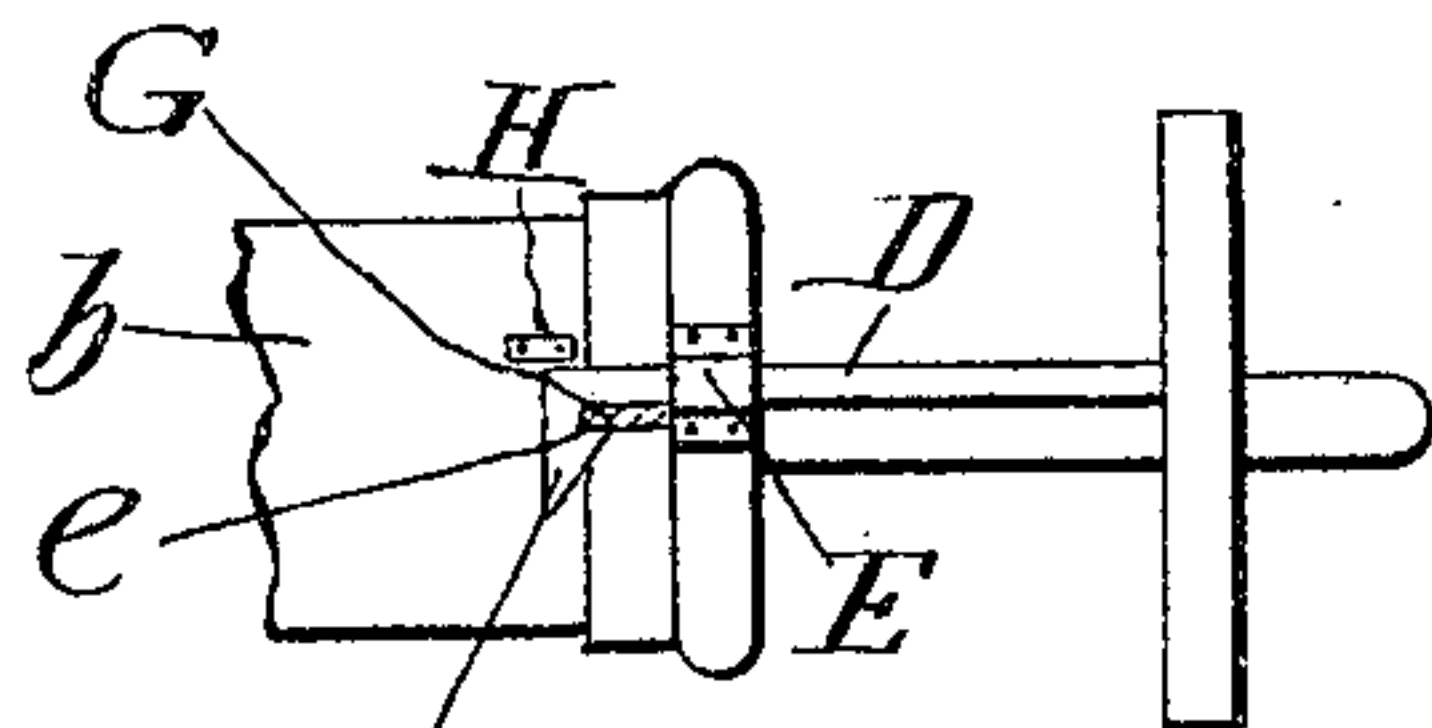


Fig. 5.

Witnesses

Lawrence Daniels

George Hunt.

Inventor

William Robert Jenkins

per George Hughes.

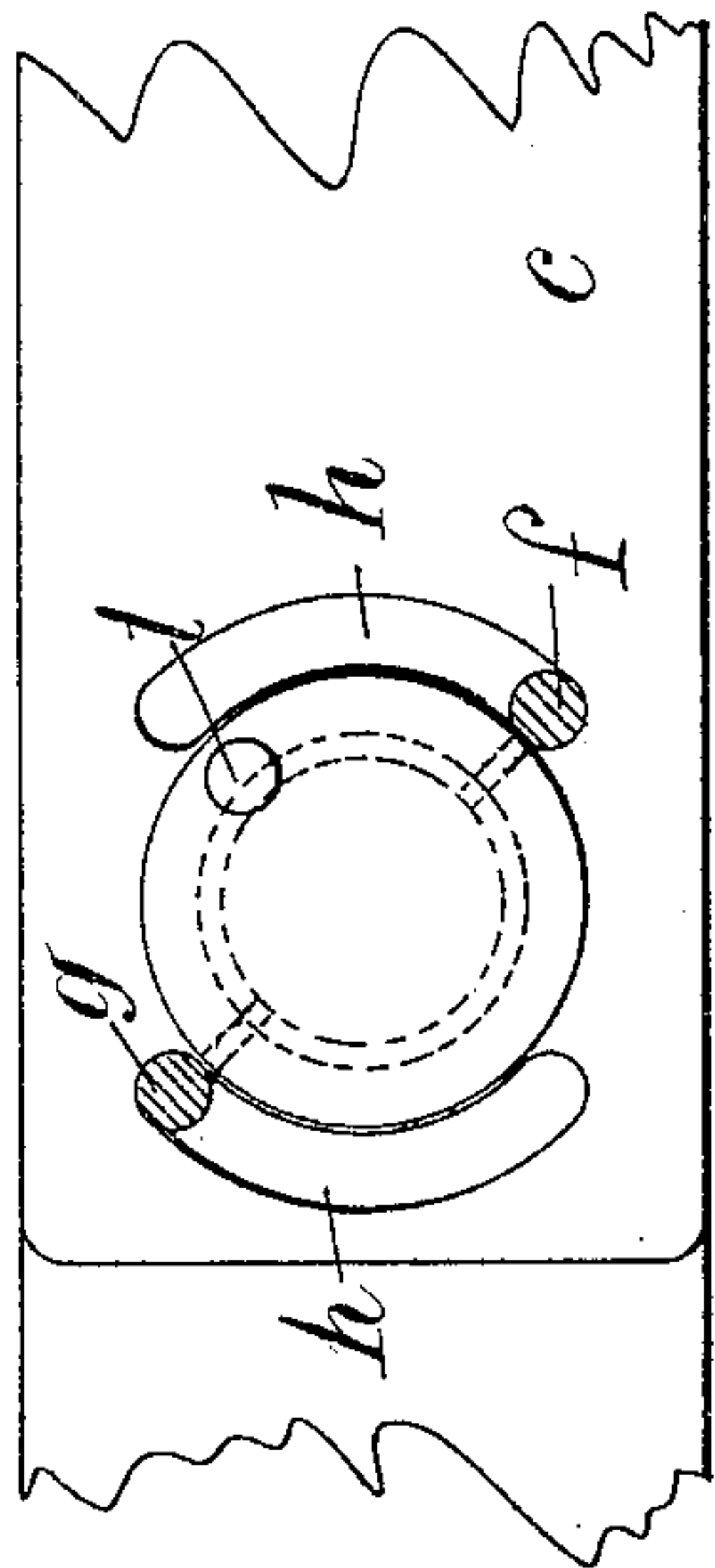
Attorney

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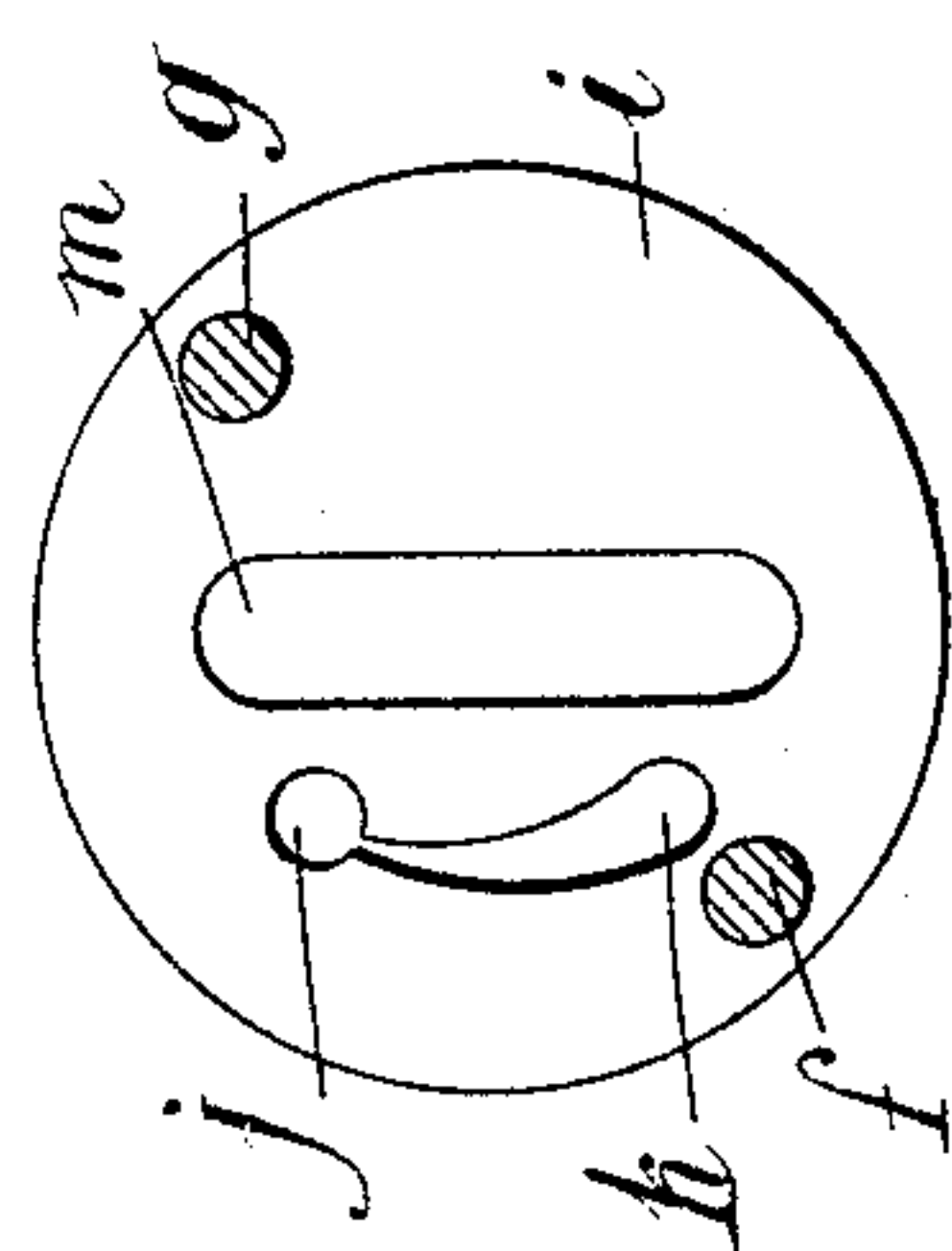
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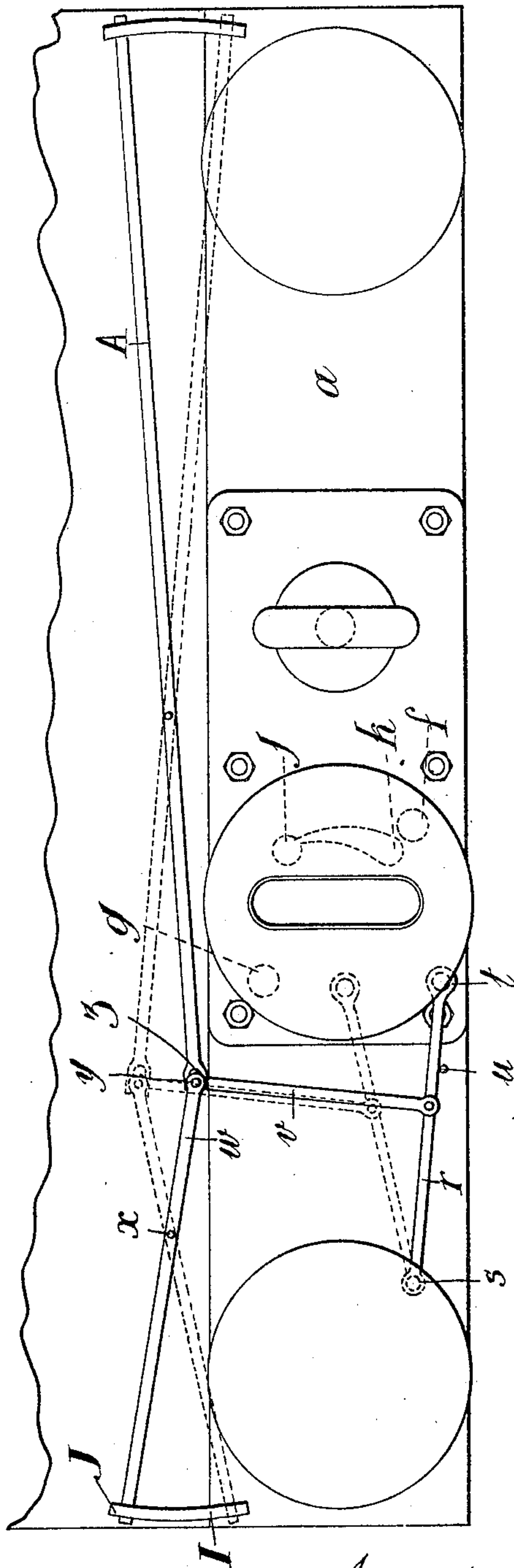
2 SHEETS—SHEET 2.



—Fig. 3.—



—Fig. 2.—



—Fig. 4.—

Witnesses.

William Crossley
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Inventor
William Robert Jenkinson
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UNITED STATES PATENT OFFICE.

WILLIAM ROBERT JENKINSON, OF BOSTON, ENGLAND.

AUTOMATIC COUPLING FOR RAILWAY AND LIKE VEHICLES.

No. 804,813.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed April 25, 1904. Serial No. 204,892.

To all whom it may concern:

Be it known that I, WILLIAM ROBERT JENKINSON, a subject of the King of the United Kingdom of Great Britain and Ireland, residing at 80 Sleaford road, Boston, in the county of Lincoln, England, have invented new and useful Improvements in Automatic Couplings for Railway and Like Vehicles, of which the following is a specification.

This invention relates to improvements in automatic couplings for railway and like vehicles, and in carrying it into effect I proceed in or in about the following manner, making reference to the accompanying drawings, wherein—

Figure 1 is a plan of the arrangement provided at each end of the vehicle. Figs. 2 and 3 are back and front views, respectively, of details. Fig. 4 is an end elevation of Fig. 1, showing certain levers, to be hereinafter referred to. Fig. 5 is a side view of a catch, to be hereinafter referred to. Fig. 6 is a side view of a T-head, to be hereinafter mentioned.

To each buffer-beam *a* of each vehicle is attached somewhat to the left of the center a spring-buffer *b*, outstanding from a plate *c*, bolted to the buffer-beam *a*.

Free to revolve in grooves in the casing of the buffer *b* are two rings *d*, to which are attached or with which are integrally formed the diametrically opposite arms *e*, the outer ends of which are connected by the bars *f* and *g*, the bar *g* being so much heavier than *f* as to cause it if left free to hang vertically below the bar *f*. The extent to which *g* can fall, however, is limited by providing in the plate *c* curved openings or recesses *h* and prolonging the adjacent ends of the bars *f* and *g*, so as to enter these recesses. The length of the recesses *h* is such that the heavy bar *g* cannot be raised more than forty-five degrees above the horizontal nor fall more than forty-five degrees below the horizontal. The opposite ends of *f* and *g* are prolonged to extend beyond the head of the buffer *b* and are attached to a disk *i*, in the back of which are two recesses *j* and *k*.

Projecting from the head of the buffer *b* is a stud *l*, and when the heavy bar *g* is in its highest position *l* enters the upper recess *j*, and when *g* is in its lowest position *l* enters *k*. The recesses *j* and *k* are connected by an inclined plane extending from the bottom of the recess *k* and running out in the recess *j*. The recesses *j* and *k* are preferably to the right, as seen from the front. In the disk *i*

is a bevel-edged slot *m*, which when the bar *g* is in its highest position is vertical, and when *g* is in its lowest position *m* is horizontal—in other words, at right angles to its former position.

Somewhat to the right of the buffer *b* is attached a casing *n*, having a spring-controlled draw-bar *o*, carried back to the spring attachment *p*, usual on railway rolling-stock, and provided at its outer end with a flat part *q*, forming, with the draw-bar *o*, a T-shaped head. The part *q* is of a size to slide easily into the slot *m* of the disk *i* of the buffer arrangement on the beam of the other of the two vehicles to be coupled together.

The action is as follows, assuming that the bar *g* on one of the vehicles to be in its highest position: When the opposing vehicles are run toward one another, the T-shaped end of the draw-bar *o* of the one vehicle enters the slot *m* of the buffer on the other vehicle, and the impact of this T-shaped end with the head of the buffer *b* withdraws the stud *l* from the upper recess *j* and allows the heavier bar *g* to fall, which brings the slot *m* across the T-shaped head and prevents the T-shaped head being withdrawn.

To uncouple the vehicles, I provide a lever *r*, pivoted at *s* to the buffer-beam *a*, the free end of the lever carrying the roller *t*, which is immediately below the bar *g* when in its lowermost position, a stop *u* keeping the roller from falling too low. To the lever *r* is pivoted one end of a rod *v*, the other end of which is pivoted to one end of a lever *w*, pivoted at *x* to the buffer-beam *a* or to carriage or truck at a suitable height, and the pin at *y*, which connects *w* and *y*, slides in a slot *z* of a lever *A*, pivoted to the carriage or truck. By depressing the free end of either of the levers *w* or *A* the rod *y* is lifted, and with it the lever *r*, the roller *t*, which in lifting the bar *g*, will bring the slot *m* vertical, and allow the T-shaped end of *o* to pass out through *m*, thus enabling the vehicles to separate.

To reduce the force of concussion, rubber or other resilient washers may be provided at B for the piston C of the draw-bar *o* to strike against.

As an additional security I provide behind the head of the buffer *b* a hook D, the shank of which runs through a loop E, attached to the buffer-casing, and continues across the top of the arms carrying the heavy bar *g*. The beak F of this hook D has a notch G on

its inner edge, in which notch the edge of the outer of the arms *e*, carrying the bar *g*, is retained until the buffer-head has been pushed in sufficiently by contact with the T-headed draw-bar. A stop H is provided to prevent the hook D being pushed up too far when the bar *g* is raised for uncoupling the vehicles.

I prefer to have the hook D on the left side of the head of *b*.

The rod of the buffer *b* and the draw-bar *o* are made of square cross-section to prevent them turning round.

The outer ends of the levers *w* and *A* may move under the plates I, having stops J at each end, and they may be held in any required position by a pin or other means.

The ends of the bars *f* and *g* may be bifurcated where attached to the disk *i*, so as to strengthen the connection.

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

An automatic coupling for railway and like vehicles and consisting of two main portions, namely, on the buffer-beam of one of the vehicles a buffer having a T-headed draw-bar (preferably spring-controlled) and on the buffer-beam of the other of the vehicles, a spring-buffer the head of which has an eccentrically-placed stud which is inserted in one

or other of two recesses in the back of a disk which is free to make a part revolution by the fall of the heavier of two bars free to move round the casing of the said buffer, the said disk having a slot through which in the act of coupling the head of the above-mentioned T-headed draw-bar passes and on contacting with the head of the spring-buffer disengages the stud from the disk which by the falling of the heavier bar makes a part revolution so as to bring the slot in the disk at right angles to the head of the T-headed draw-bar and thus couple the vehicles, means being provided to limit the movement of the heavier of the two bars and also to lock it in its upper position and an arrangement of levers operable from each side of the vehicle for raising the heavier bar and bringing the slot in the disk into position for the head of the T-headed draw-bar to pass out and to allow the vehicles to uncouple, substantially as hereinbefore described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM ROBERT JENKINSON.

Witnesses:

JOSEPH GOBY,

HARRY STUART BUDGE.