

(No Model.)

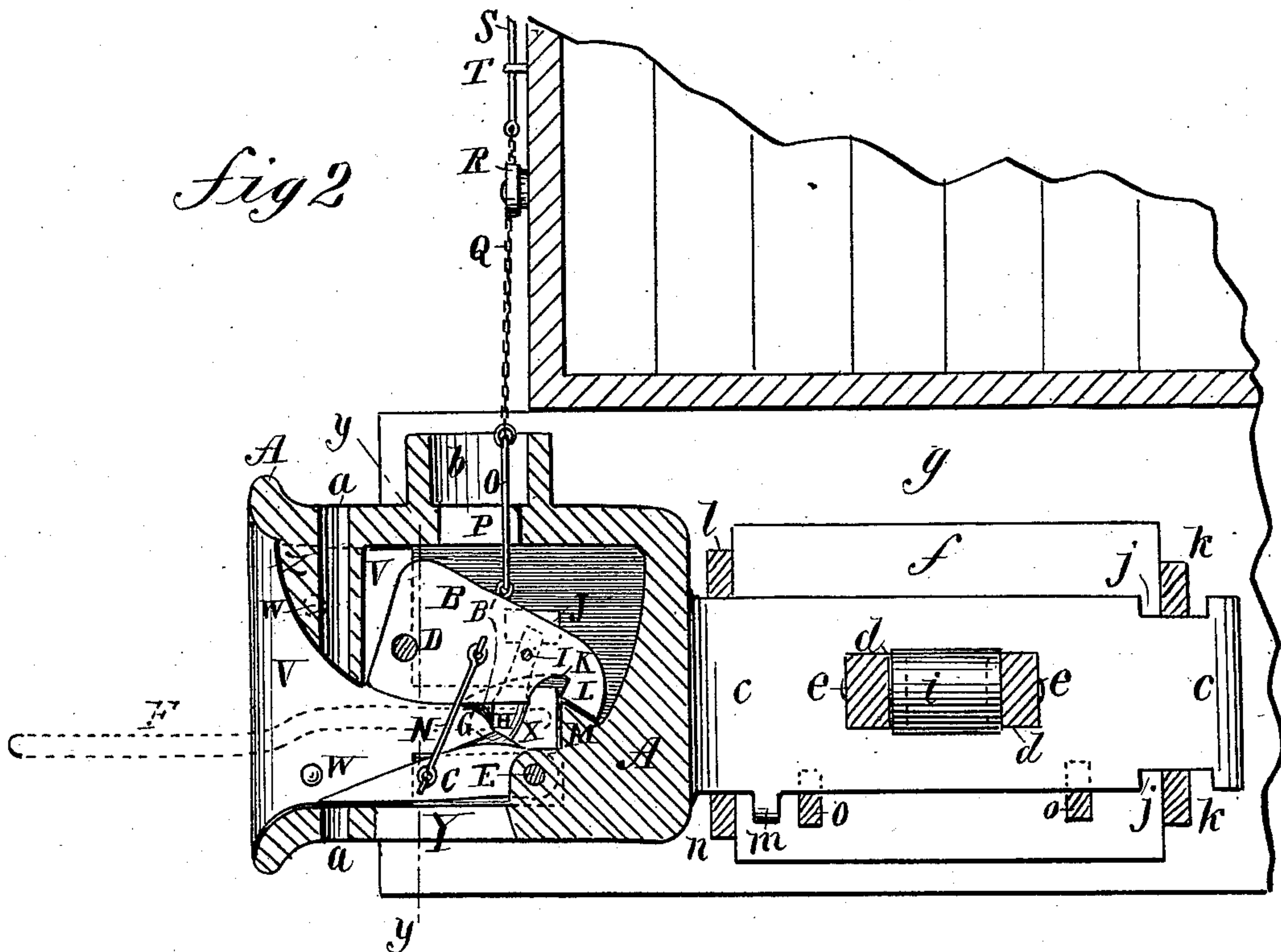
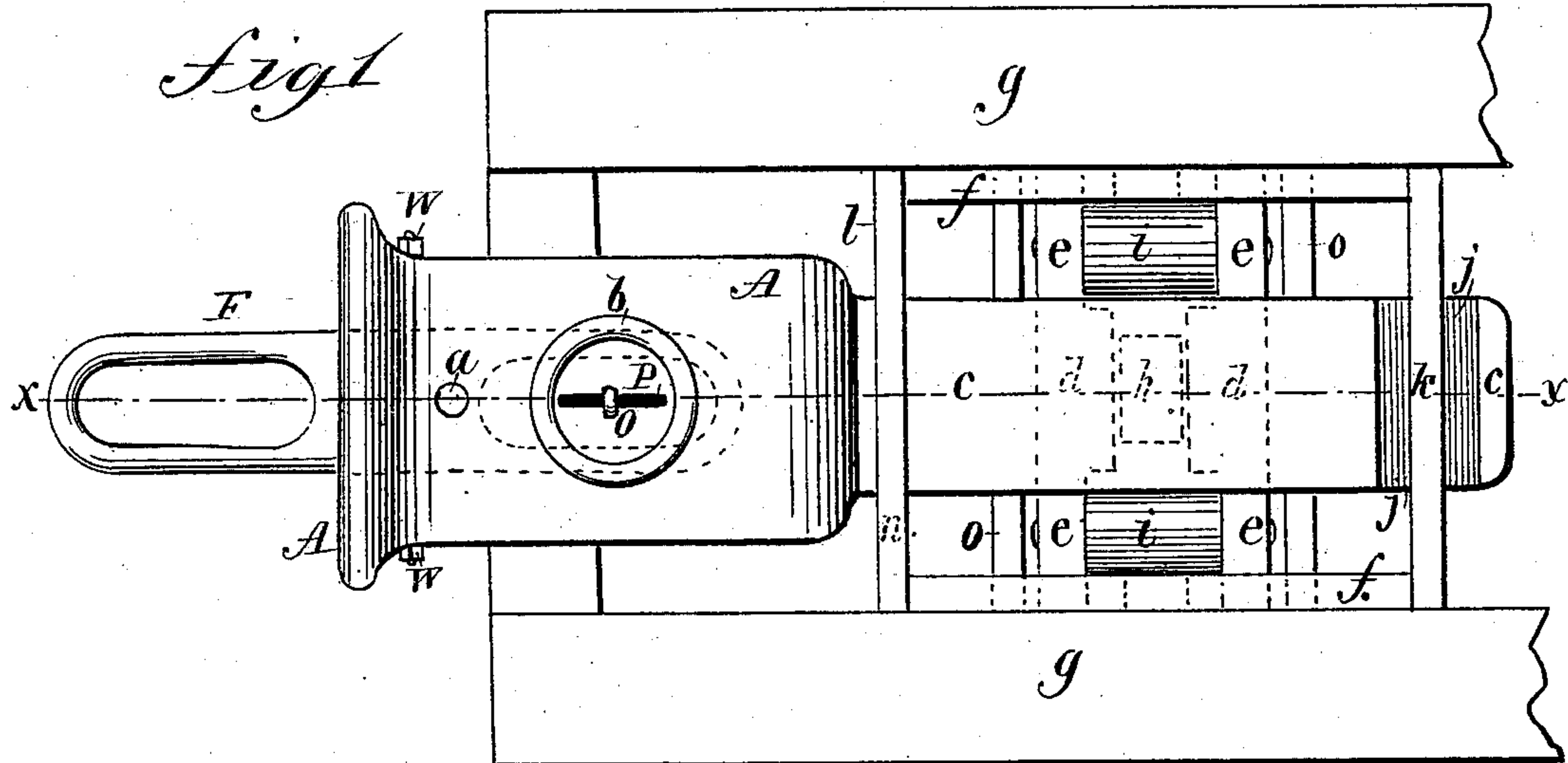
2 Sheets—Sheet 1.

J. W. COLE.

CAR COUPLING.

No. 275,754.

Patented Apr. 10, 1883.



WITNESSES:

J. D. Garfield
C. Sedgwick

INVENTOR:

J. W. Cole
BY *Mum & Co*
ATTORNEYS.

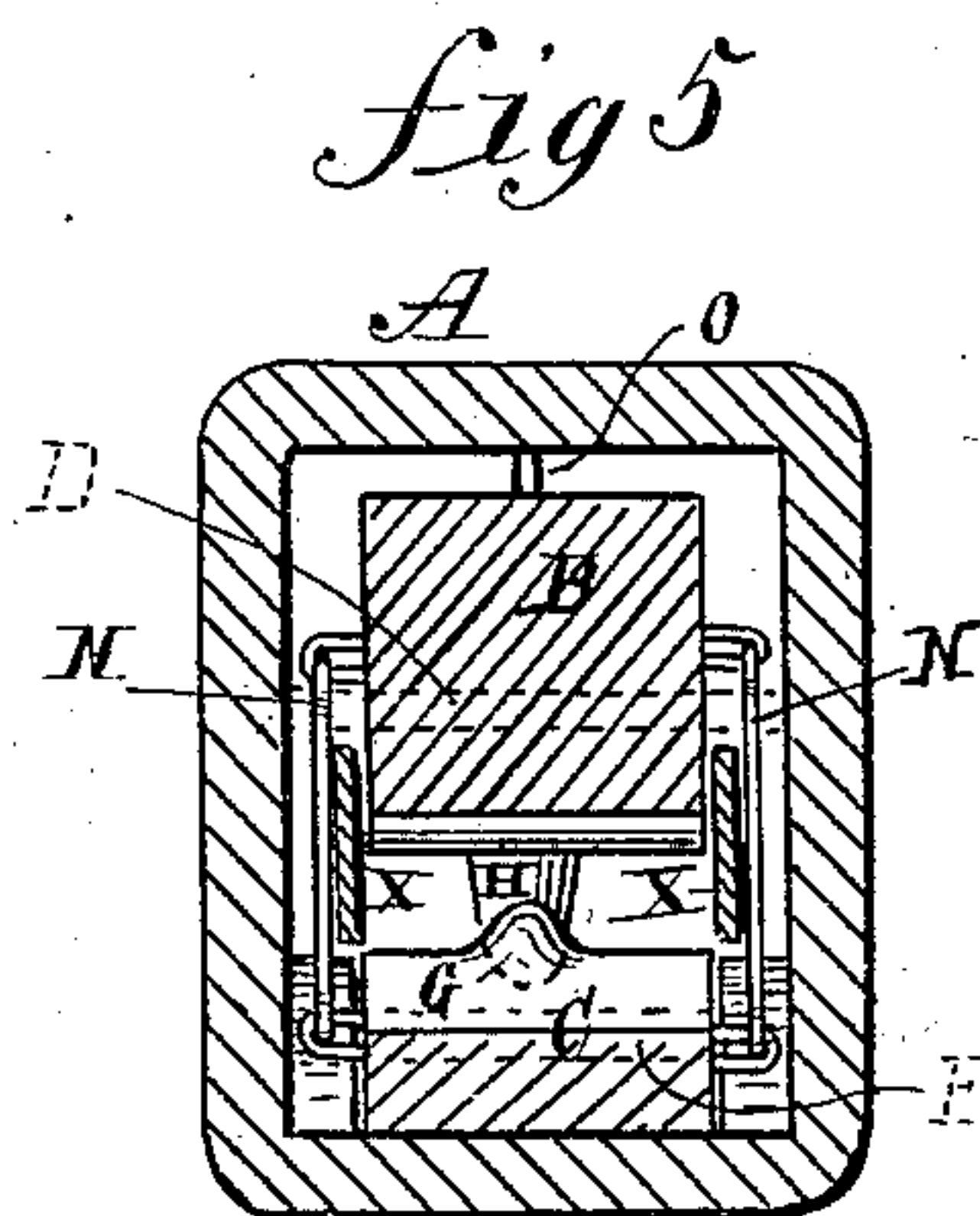
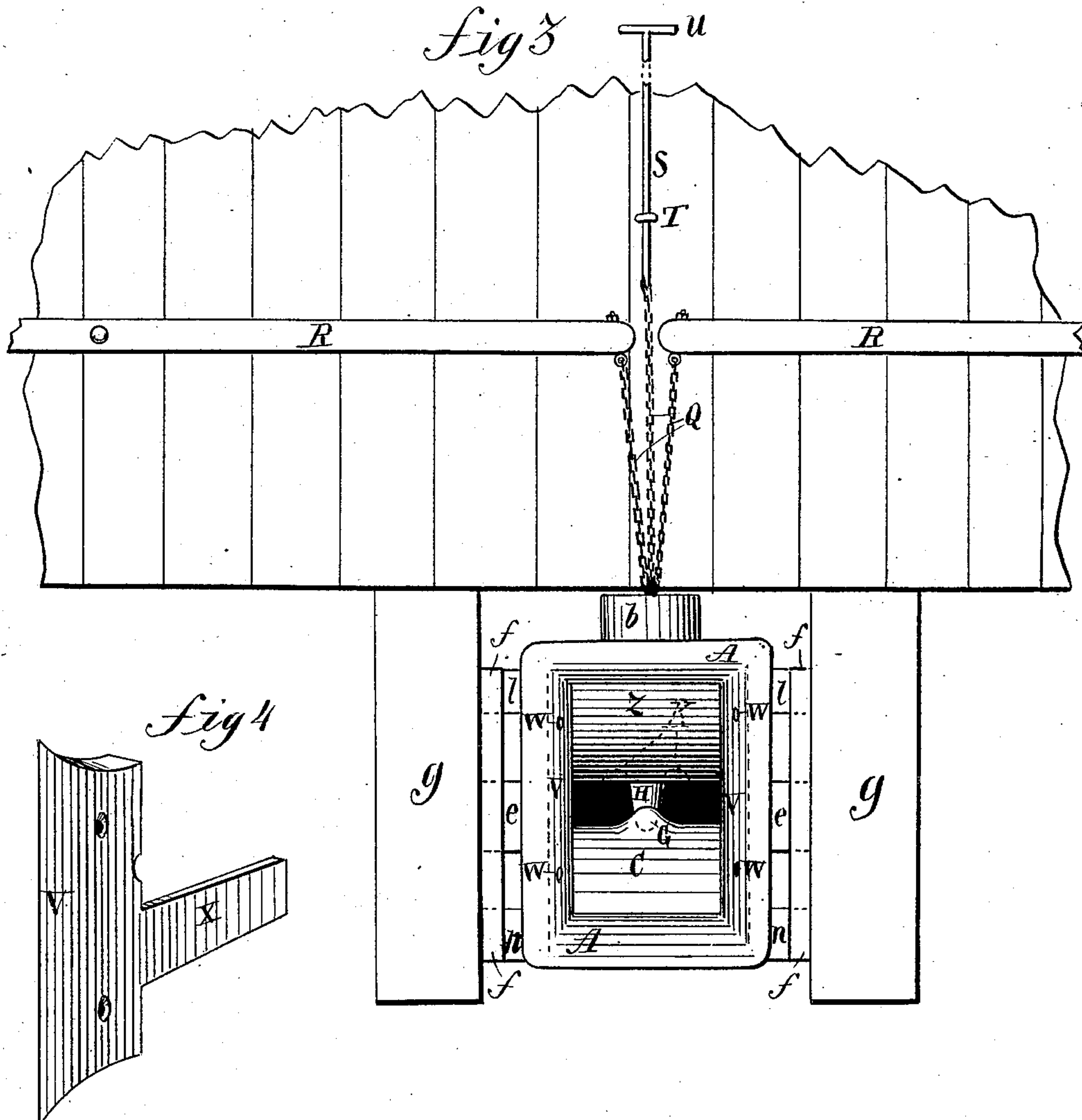
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UNITED STATES PATENT OFFICE.

JAMES W. COLE, OF HUNTINGTON, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 275,754, dated April 10, 1883.

Application filed October 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. COLE, of Huntington, in the county of Hampshire and State of Massachusetts, have invented a new and useful Improvement in Car-Couplings and Buffers, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1, Sheet 1, is a plan view of my improvement. Fig. 2, Sheet 1, is a sectional side elevation of the same, taken through the line *x x*, Fig. 1. Fig. 3, Sheet 2, is a front elevation of the same. Fig. 4, Sheet 2, is a perspective view of the fenders for one side of the draw-head. Fig. 5, Sheet 2, is a sectional front elevation of the draw-head, taken through the line *y y*, Fig. 2.

The object of this invention is to promote convenience, security, and efficiency in the use of car-couplings and buffers.

A represents the draw-head, within the interior of which are placed two blocks, B C. The upper block, B, is pivoted near the lower part of its forward end to the sides of the draw-head A by a pin, D, passing through the said draw-head and block. The lower block, C, is pivoted at its rear end to the sides of the draw-head A by a pin, E. The lower block, C, is made wedge-shaped, as shown in Fig. 2, so that the coupling-link F can slide up it readily as two cars are run together. The side parts of the upper side of the rear end of the lower block, C, are slightly cut away, leaving a projection or boss, G, the top of which is beveled, as shown in Fig. 2, to form a seat for the beveled lower end of the coupling-pin H. The upper part of the coupling-pin H is inserted in a mortise in the rear part of the upper block, B, and is firmly secured in place by a pin or bolt, I, passing through the said block and the upper end of the said pin. Upon the lower side of the upper block, B, in front of the pin H, is formed a projection or shoulder, B', to cause the link F to pass under the pin H more readily in coupling cars. Openings J are formed in the opposite sides of the draw-head A, for convenience in removing and inserting

the pin or bolt I when required. The lower side of the rear part of the upper block, B, has a U-shaped recess, K, formed in it at the sides and rear of the pin I, to receive the end of the coupling-link F and prevent the said link from being pushed in too far. The rear end, L, of the upper block, B, is inclined downward to rest against the upwardly-inclined shoulder M, formed in the rear part of the interior of the draw-head A, to receive a portion of the draft-strain. With this construction the draft-strain will be distributed upon the pins H D E and the inclined shoulders L M, so that no one of the said parts will be subjected to an undue pressure. The shoulder M also serves as a stop for the end of the link F to strike against to prevent the said link from going too far back when entering the draw-head A at a downward inclination.

To the opposite sides of the forward part of the lower block, C, are attached by staples or other suitable means the lower ends of two rods, N, the upper ends of which are connected by staples or other suitable means with the middle or rear parts of the opposite sides of the upper block, B, so that the forward end of the said lower block will be raised by raising the rear end of the said upper block. With this construction, when the rear end of the upper block, B, is raised, the forward end of the lower block, C, is raised against the coupling-link F, and the lower forward end of the upper block, B, moves downward against the link F between the forward end of the said lower block and the coupling-pin H, and acts as a cam to push the end of the said link off the said pin, thus securing the prompt release of the coupling-link.

To the middle rear part of the upper side of the upper block, B, is secured, by a staple, an eyebolt, or other suitable means, the lower end of the rod O, which passes up through a slot, P, in the upper side of the draw-head A, and with its upper end is connected, by short chains Q or other flexible or jointed connections, the inner ends of two levers, R, and the lower end of a rod, S. The levers R are pivoted to the end of the car, and their outer ends project to nearly to or a little beyond the sides of the cars, so that they can be operated to

uncouple the cars by attendants standing at the sides of the track, and thus out of danger.

The rod S passes up through and slides in keepers T, attached to the end of the car.

5 The rod S has a cross-head or other shaped handle, U, attached to its upper end, for convenience in operating the said rod, and to serve as a stop to prevent the rod from sliding down too far. The rod S allows the cars
10 to be uncoupled from the top of a car.

To the inner sides of the sides of the mouth of the draw-head are attached blocks V, to serve as guides to direct the end of an entering link into the proper position to pass in between the blocks B C and engage with the
15 coupling-pin H. The guides V are secured to the sides of the draw-head A by screws W or other suitable means, so that the said guides can be detached for the convenient removal of
20 the coupling-blocks B C.

Upon the inner edges of the guides V are formed, or to them are attached, fenders X, which pass back between the rods N and the sides of the coupling-blocks B C, to prevent
25 the said rods N from being struck and injured by the end of the entering link F. The fenders X extend back into recesses in the rear part of the interior of the draw-head A at the sides of the shoulder M.

30 In the bottom of the draw-head A is formed an opening, Y, to allow the rods N to be readily detached when required.

Upon the lower side of the top of the mouth of the draw-head A is formed a guide, Z, which
35 projects downward to the lower part of the forward end of the upper block, B, to prevent the said end from being struck by the end of the entering link. The forward side of the guide Z is beveled or rounded, as shown in
40 Figs. 2 and 3, to guide the end of the link F into the space between the coupling-blocks B C. The guide Z may fit in between the separable guides V; or the upper parts of the guides V, the guide Z, and the draw-head A
45 may be made in one piece, the lower parts of the guides V being made separate.

Through the guide Z and the top and bottom of the draw-head A is formed a hole, a, to receive a coupling-pin, so that the cars can be
50 coupled by an ordinary coupling link and pin when necessary.

The coupling-link F can be made straight or bent, and can be made like an ordinary link, or with a solid middle part, as may be desired
55 or convenient.

Upon the top of the draw-head A is formed an annular flange, b, surrounding the rod-slot P and protecting the upper end of the rod O.

60 In the draw-bar c is formed a slot, d, through the end parts of which pass two bars, e. The ends of the bars e enter slots in the plates f, attached to the draw-timbers g of the car-frame.

65 Between the bars e within the slot of the draw-bar c, or between projections formed upon the inner sides of the said bars e, is placed

a spring, h, of rubber or metal, and between the bars e, at the opposite sides of the draw-bar c, are placed rubber or metal springs i, which are secured to the said bars e by pins, 70 bolts, or other suitable means.

In the upper and lower sides of the draw-bar c are formed cross-grooves j, in which are placed bars k, to receive the main drawing and backing strain. The ends of the cross-bars k
75 are firmly secured to the draw-timbers g.

Upon the upper side of the draw-bar c, and near the shoulder at the rear end of the draw-head A, is placed a cross-bar, l, the ends of which are secured to the draw-timbers g, so
80 that in backing the said shoulder will come against the said cross-bar.

Beneath the forward part of the draw-bar c, and in front of the flange m, formed upon or attached to the said draw-bar, is placed a cross-
85 bar, n, the ends of which are secured to the draw-timbers g, so that in drawing the said flange m will come against the said cross-bar n.

Beneath the draw-bar c are placed two bars, o, the ends of which are secured to the draw-
90 timbers g, and which are recessed upon their upper sides to receive the said draw-bar, so that the bars o will support the draw-bar c and draw-head A and hold them from lateral move-
95 ment. The bars o can be omitted by forming recesses in the bars k n, or by attaching upright bars to the bars k l n at the sides of the draw-bar c.

When a draft-strain is applied to the coupling, the springs h i are first compressed, and
100 the rear shoulders of the slots j are then drawn against the bars k, and the flange m is drawn against the bar n, so that the draft-strain will be mainly sustained by the said bars k n. When a backing strain is applied to the coupling, the
105 springs h i are first compressed, and the forward shoulders of the slots j are then forced against the bars k, and the shoulder at the rear end of the draw-head A is forced against the bar l, so that the backing strain will be
110 mainly sustained by the bars k l.

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

1. In a car-coupling, the combination of a
115 front pivoted block, B, and a rear pivoted block, E, connected by pivoted rods N, whereby as the link raises the rear end of block B the latter will raise the forward end of block E against the link, as and for the purpose
120 specified.

2. The combination of the wedge-block C and guides V V to force the link to slide up between the rods N to the pin H, as described.

3. A draw-head having the front curved and
125 downwardly-extending projection Z perforated and adapted to form a guide both for the link and pin, as shown and described.

4. A draw-head having the annular flange b, and within said flange the slot P, in combi-
130 nation with the lifting-rod O, as and for the purpose set forth.

5 5. The draw-bar *c*, having slot *d*, cross-grooves *j*, and flange *m*, in combination with the cross-bars *e*, carrying springs *h i*, the slot-plates *f*, and the cross-bars *k l n*, whereby the strain may be taken, as described.

6. In a car-coupling, the block *C*, cut away and having the top beveled boss, *G*, in combination with the pin *H*, beveled at the lower end, whereby the pin is seated, as described.

10 7. The block *B*, having side recesses, *K*, in rear of the pin *I*, to receive the coupling-link, as described.

15 8. In a car-coupling, the pins *H D E*, combined with the shoulders *L M* to divide the draft-strain, as described.

20 9. A car-coupling constructed substantially as herein shown and described, and consisting of the draw-head having within it two hinged coupling-blocks connected by rods, and provided with a coupling-pin secured to one of the said blocks, and a pin-receiving projection formed upon the other block, the draw-head being provided with guides and guards to direct the link into the space between the coupling-blocks and protect the coupling-blocks and their connecting-rods from being injured by the link, as set forth.

25 10. In a car-coupling and buffer, the combination, with the draw-head *A*, of the coupling-block *B*, hinged at its forward end, and provided near its rear end with a coupling-pin, *H*, the coupling-block *C*, hinged at its rear end, and provided with a projection, *G*, to receive the end of the coupling-pin *H*, and the connecting-rods *N*, hinged to the sides of the coupling-blocks, substantially as herein shown and described, whereby the coupling-link will be securely held and can be readily inserted and withdrawn, as set forth.

30 11. In a car-coupling and buffer, the combination, with the draw-head *A*, of the guides *V* and guards *X*, substantially as herein shown and described, whereby the link is directed into the space between the coupling-blocks and is kept from striking the block-connecting rods, as set forth.

40 12. In a car-coupling and buffer, the combination, with the shoulder *M*, formed in the rear part of the draw-head *A*, of the inclined rear end, *L*, of the upper coupling-block, substantially as herein shown and described, whereby the pivoting-pins of the coupling-blocks will be relieved of a part of the draft-strain, as set forth.

45 50 55

JAMES WESLEY COLE.

Witnesses:

HENRY BAYLIES,

ORIEN S. CURRIER.