

(No Model.)

2 Sheets—Sheet 1.

D. S. HUTTON.
CAR COUPLING.

No. 510,343.

Patented Dec. 5, 1893.

Fig. 1

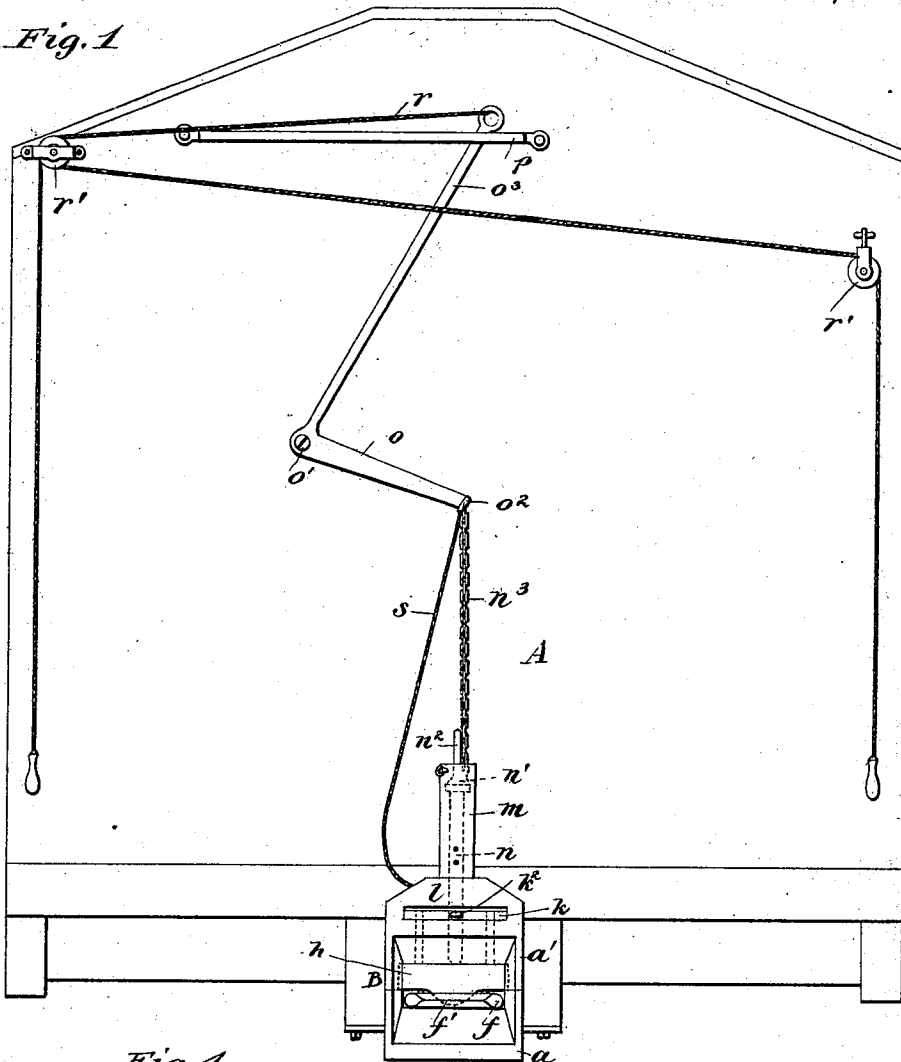
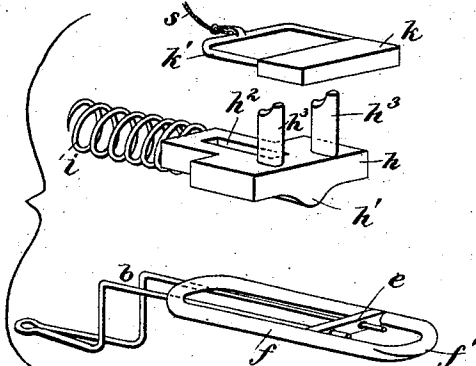


Fig. 4



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By W. H. Kimball
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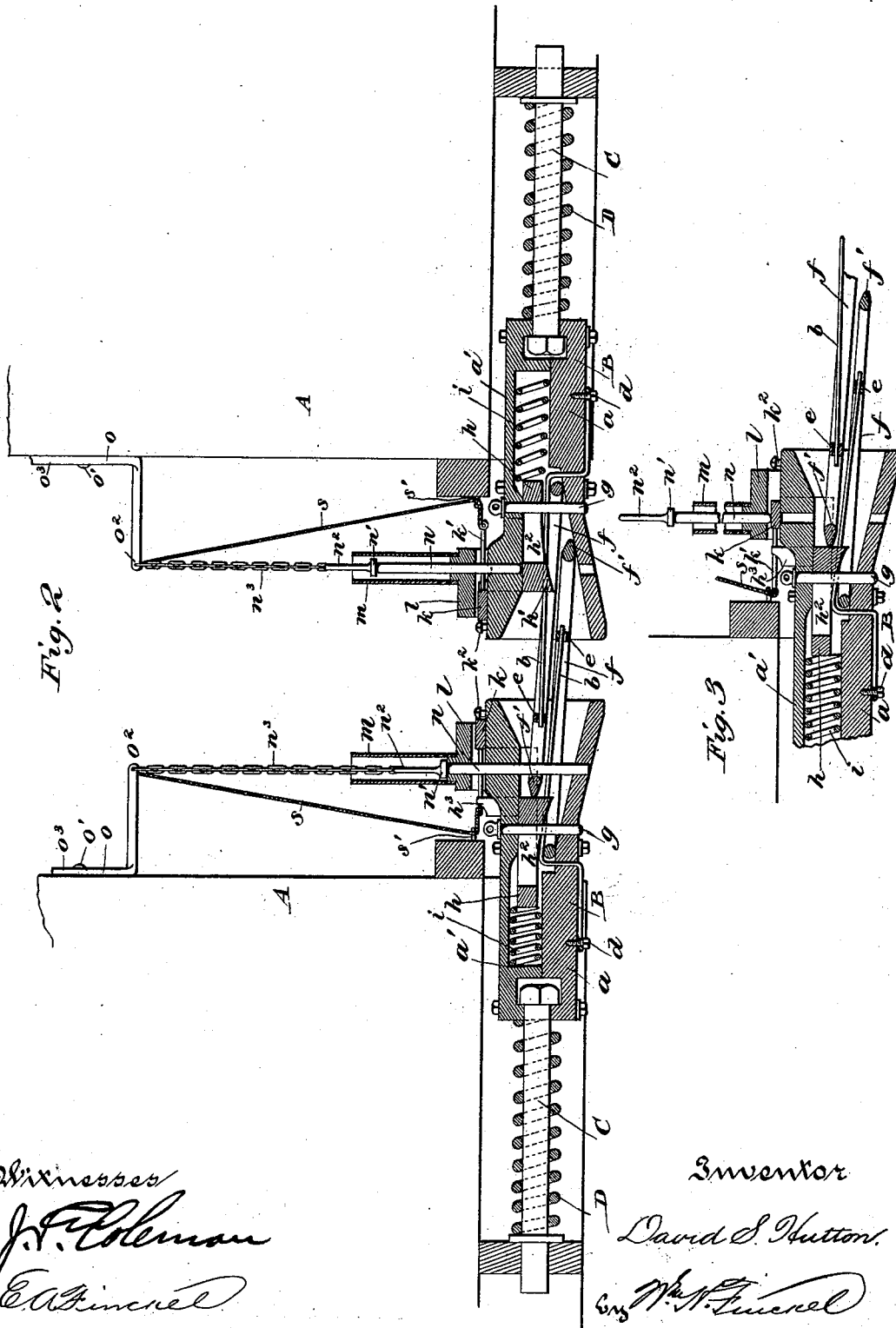
(No Model.)

D. S. HUTTON.
CAR COUPLING.

2 Sheets—Sheet 2.

No. 510,343.

Patented Dec. 5, 1893.



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UNITED STATES PATENT OFFICE.

DAVID S. HUTTON, OF MARTINSBURG, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 510,343, dated December 5, 1893.

Application filed August 17, 1893. Serial No. 483,397. (No model.)

To all whom it may concern:

Be it known that I, DAVID S. HUTTON, a citizen of the United States, residing at Martinsburg, in the county of Keokuk and State of Iowa, have invented a certain new and useful Improvement in Automatic Link-Couplings for Cars, of which the following is a full, clear, and exact description.

The object of this invention is to provide an automatically coupling car coupler, wherein each drawhead is provided with a link which is sustained in position to enter an opposed drawhead on an adjacent car similarly equipped, and to set free a coupling pin in such opposed drawhead and permit it to descend and engage the entering link and effect the union or coupling of the cars.

In carrying out my invention, each drawhead is made with a spring-sustained link, adapted to enter an opposed drawhead of like construction; and in each drawhead is a slide arranged above the link and normally pressed toward the mouth of the drawhead; this slide normally holds in inoperative position another slide above it; and above this last named slide is a coupling pin, and this pin descends by gravity to couple with a link and is withdrawn for uncoupling by means which retracts at the same time the uppermost slide and places it in the path of descent of such coupling pin, so that, when the cars part, the lowermost slide again displaces the uppermost slide and allows the pin to drop on to the lowermost slide, whence it is displaced by the entrance into the drawhead of a link of an adjacent car forcing the lowermost slide back into the drawhead to permit the coupling pin to drop through the entering link.

Having thus stated the principle of my invention, I will proceed now to describe the best mode in which I have contemplated applying that principle, and then will particularly point out and distinctly claim the part or improvement which I claim as my invention.

In the accompanying drawings illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a front elevation. Fig. 2 is a longitudinal section. Fig. 3 is a longitudinal section of one coupling in initial uncoupling position;

and Fig. 4 is a perspective view of the link and two slides.

I have shown my invention as applied to an ordinary box car, but without thereby limiting its applicability.

A is the end of the car, and B is the drawhead. This drawhead is divided longitudinally into two horizontal parts, secured together by bolts, or otherwise, as desired, and embracing a drawrod C by which the drawhead may be secured to the draft-timbers in any usual manner, the details of which are not shown.

D may represent the usual spring of the draft-rigging.

The lower half *a* of the drawhead is provided with a forked spring *b*, passed through vertical holes therein and secured by a bolt or screw or other fastening *d*. The free ends of this spring project into the mouth of the drawhead where they engage a cross-bar *e* of a link *f* and so support the link in position to enter an opposed drawhead, while at the same time admitting of freedom of motion of the link in every direction required in service. The preferred form of link has its outer end beveled, as at *f'*, the better to avoid obstruction of its entrance into an opposed drawhead. This link is permanently retained in the drawhead by means of a pin or other fastening medium *g*.

Within the mouth of the drawhead is arranged a slide *h*, shown in detail in Fig. 4, said slide being of substantially the width of the interior of the mouth, and having a depending lip *h'*, which plays between the limbs of the link. The slide is normally projected forward by means of a spring *i* which is arranged in a suitable cavity made for it in the upper half *a'* of the drawhead. This link is secured in the drawhead by means of the pin *g* passing through the vertical slot *h²* in said slide. Said slide, furthermore, is provided with vertically projecting fingers *h³* which extend up through slots in the upper member *a'* of the drawhead and project up above the upper surface of the said drawhead, as shown more particularly in Fig. 2. This slide *h*, heretofore referred to as the lowermost slide, will be hereinafter referred to as the inner slide, and the slide hereinbefore re-

ferred to as the uppermost slide will be hereinafter referred to as the outer slide. This outer slide k is arranged on the upper surface of the upper half of the drawhead and within a cap l , and the said slide k is provided with a loop or other rearward projection k' . The forward movement of the slide k is stopped by a removable stop, such as the screw k^2 , while its rearward motion is arrested by the fingers h^3 of the inner slide. Rising from the cap l is a tubular housing m , and in line with this housing the cap l and the two members of the drawhead are perforated to receive the coupling pin n . This coupling pin is provided with the head n' to arrest its descent, and is also provided with the projection or extension n^2 above said head which, when the said coupling pin is in uncoupling position, projects above the housing, to indicate to the train-hand the condition of the coupling; that is to say, whether the pin is in coupled or uncoupled position.

o is a lever pivoted at o' to some portion of the car body, and having a right-angled projection o^2 , which extends outwardly into line with the housing m and the path of movement of the coupling pin therein, and is connected with said pin by a flexible medium n^3 . This lever o has a hand-piece o^3 extending up through a guide-rail p . The lever may be operated directly by this hand-piece o^3 , as from the top of the car, but I prefer to supply said hand-pieces with flexible connecting devices r , which may extend over pulleys r' to opposite sides of the car and down to a point where they will be in reach of the train-hand standing upon the track, to thus enable the train-hand to operate the couplings without climbing to the top of the car. The arm o^2 on this lever is also supplied with a flexible connecting device s , which passes thence through an eye s' , to the portion k' of the outer slide, so that, when the said lever o is raised in order to withdraw the coupling pin, the outer slide k is likewise moved, and when the said coupling pin has been wholly withdrawn from the drawhead proper, the said slide k will be pulled into position beneath the said coupling pin, and in the line of its movement, and so support the coupling pin from descending into the drawhead, thus putting the said coupling pin into position for operation for uncoupling. When the car thus released has receded from the car to which it was coupled, the inner slide, hitherto under tension of its spring, by reason of pressure of the adjacent link, withdrawn into the drawhead, is free to be moved by its spring toward the mouth of the drawhead, and in this movement its fingers h^3 will come into contact with the outer slide and force it forward from beneath the coupling pin, thus allowing the coupling pin to drop on to the upper surface of the inner slide between its arms, and be thereby supported, so that when the link of another car enters the drawhead, having its pin thus supported, the pressure

of the link against the inner slide will cause said slide to move back into the drawhead, and thus free the coupling pin and permit it to drop in front of the inner slide and thence down through the hole provided for it in the bottom half of the drawhead, and so secure the link.

In the left hand coupling in Fig. 2, I have shown the position of parts when the link of an adjacent car is coupled, and in the right hand coupling of said Fig. 2, and in the coupling shown in Fig. 1, I have shown the parts in position where the coupling pin is supported upon the inner slide, and in Fig. 3, I have shown the parts in the position where the coupling pin is supported upon the outer slide.

The drawhead is made of two parts in order to facilitate its manufacture, and also to render its interior parts more readily accessible for repairs.

While I have thus described the best mode in which I have contemplated carrying out my invention, I wish to be understood as reserving the right to vary the details of construction in accordance with the requirements of service.

What I claim is—

1. In a car coupling, the combination of a two part drawhead, divided longitudinally in a horizontal plane, and provided with a link, a support therefor, and automatic slides for controlling the descent of the coupling pin, substantially as described.

2. In a car coupling, the combination with a drawhead, of a link and spring arms applied to such link and supporting it in normal position for entrance into an adjacent drawhead, and a pin or other fastening for retaining the link within the drawhead independently of the coupling pin, substantially as described.

3. In a car coupling, a drawhead, a link having a cross-bar, a forked spring applied to such link through such crossbar and supporting the link in operative position in the draw-bar, and a pin or other fastening for retaining the link permanently in the drawhead, substantially as described.

4. In a car coupling, a drawhead, a spring-pressed slide therein, an outer slide movable independently of the inner slide so as to take a position to support the coupling pin in uncoupled position, and means connecting the inner and outer slides to effect the forward movement of the outer slide to withdraw it from the coupling pin, and the coupling pin arranged to descend first upon the inner slide and then through the drawhead in the line of the said slides when released by the successive operations of said slides, substantially as described.

5. In a car coupling, a drawhead, a coupling pin therein, an outer slide for supporting the said coupling pin in uncoupled position, an inner slide for supporting the said pin in position for coupling, and means to actuate said

pin and slides for purposes of uncoupling and to present the pin in position for coupling, substantially as described.

5 6. In a car coupling, a drawhead having a link provided with a beveled outer end and also provided with a cross-bar, combined with a supporting spring secured to the drawhead and extended through holes in said cross-bar, substantially as described.

10 7. In a car coupling, the combination of a drawhead, a slide therein to support the coupling pin in position for coupling, an outer slide to support the pin wholly outside of the mouth of the drawhead, fingers projecting

through the drawhead into the path of move- 15
ment of the outer slide and adapted to engage said outer slide and move it from beneath the coupling pin, and a coupling pin arranged to descend through the drawhead in line with the said slides, substantially as 20
described.

In testimony whereof I have hereunto set my hand this 17th day of August, A. D. 1893.

DAVID S. HUTTON.

Witnesses:

WM. H. FINCKEL,
S. A. HUTTON.