(No Model.) 2 Sheets—Sheet 1.

M. P. SCOTT.

CAR COUPLING.

No. 501,734. Patented July 18, 1893.

Fig. 1

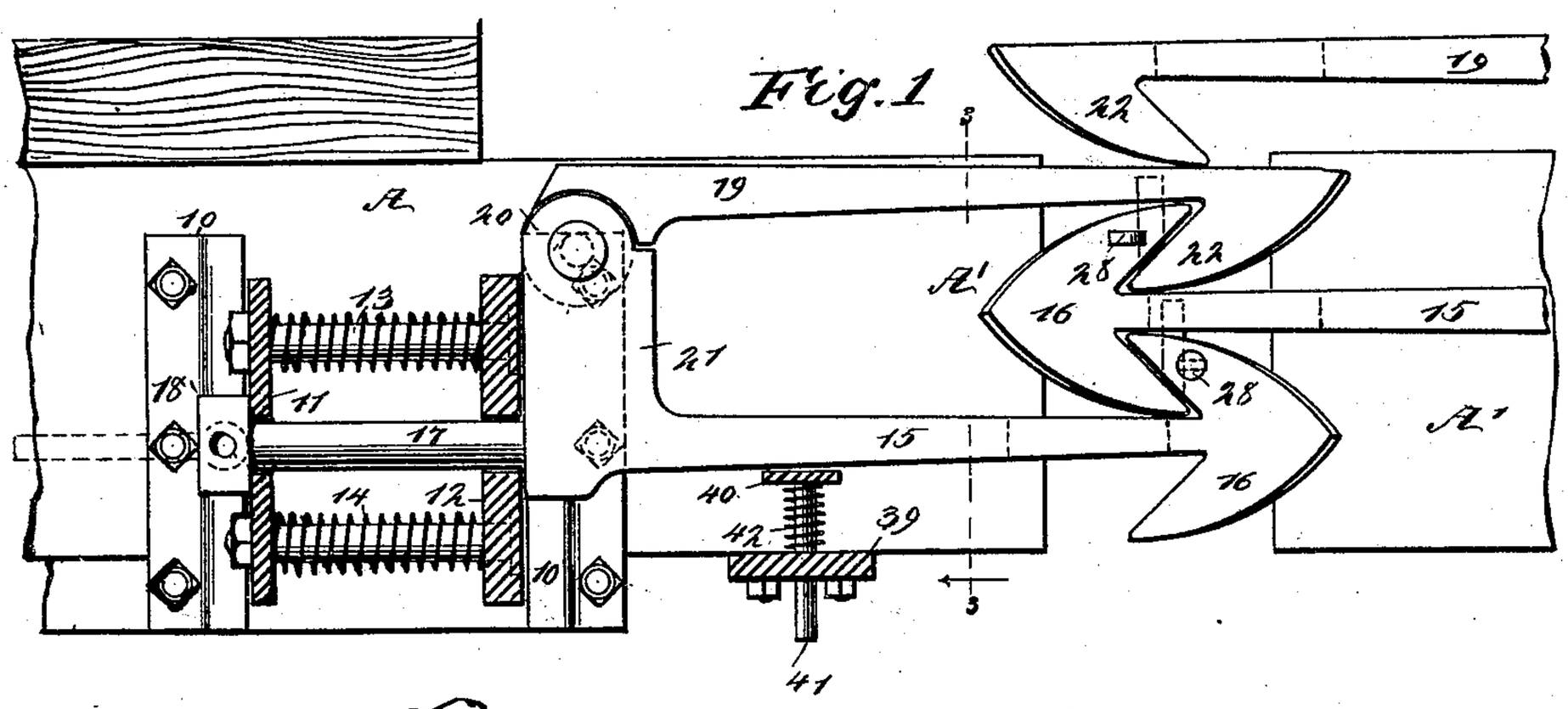

Fig. 2

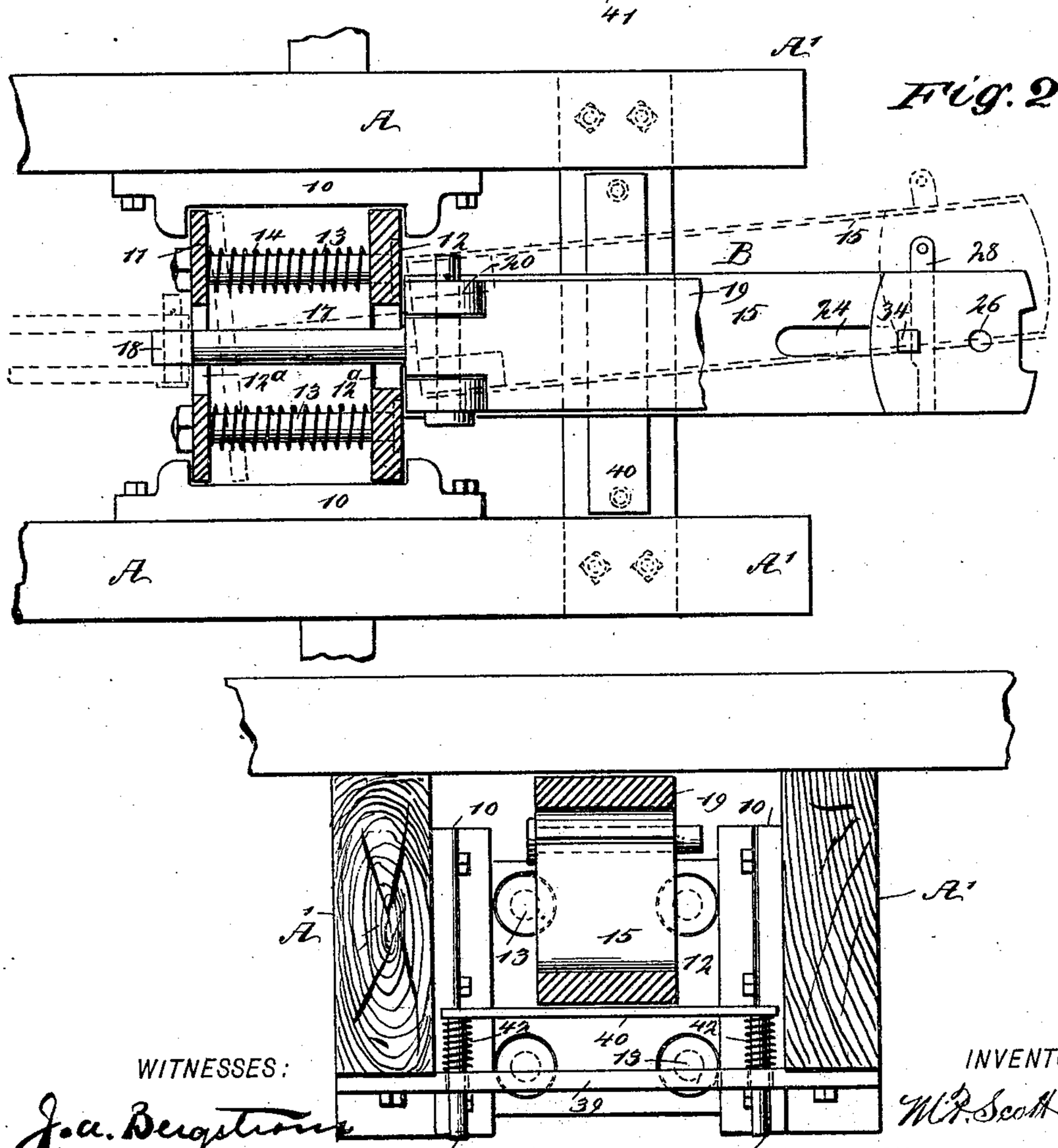

Fig. 3

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(No Model.) 2 Sheets—Sheet 2.

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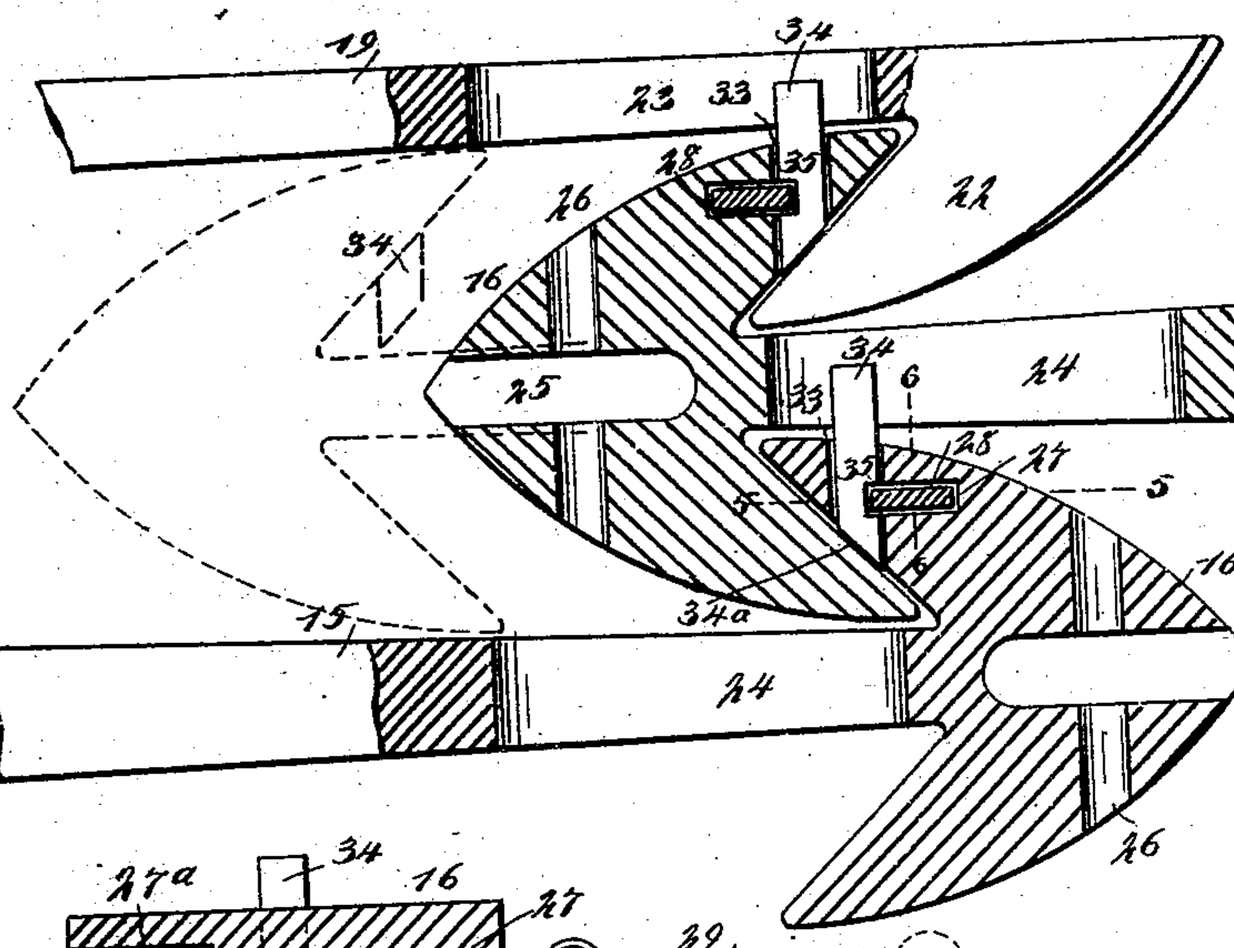


Fig. 4

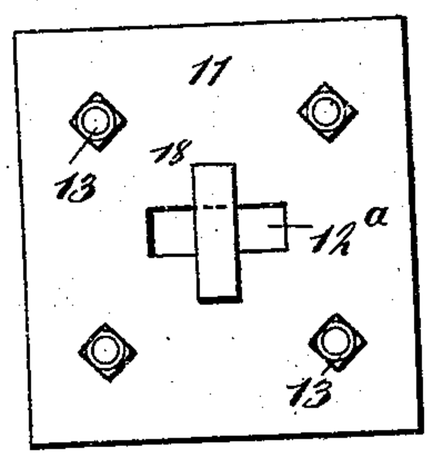


Fig. 7

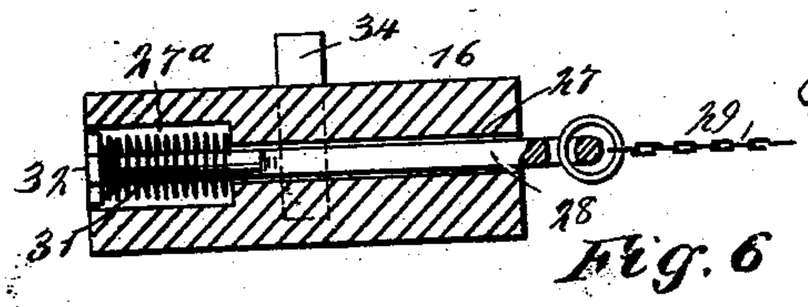
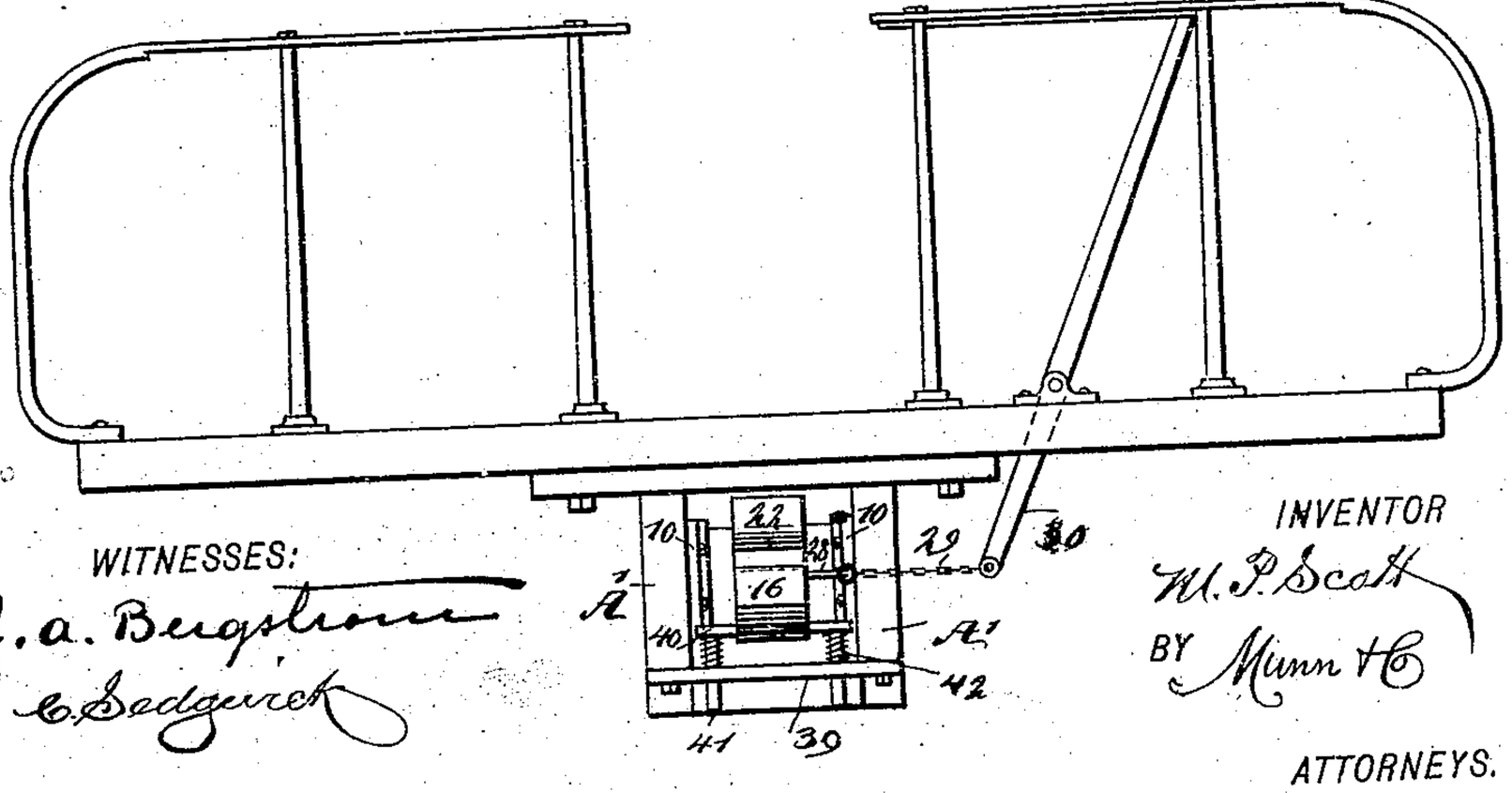


Fig. 6

Fig. 5

Fig. 8



WITNESSES:

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UNITED STATES PATENT OFFICE.

MORSE P. SCOTT, OF WOODVILLE, MISSISSIPPI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 501,734, dated July 18, 1893.

Application filed May 9, 1893. Serial No. 473,506. (No model.)

To all whom it may concern:

Be it known that I, MORSE P. SCOTT, of Woodville, in the county of Wilkinson and State of Mississippi, have invented a new and Improved Car-Coupler, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car couplers, and it has for its object to provide a car coupler of a simple, durable and economic type, which coupler will be so constructed that while it will have ample lateral and vertical play to accommodate itself to the motion of the car, after a coupling has been effected an uncoupling cannot occur unless designedly made.

A further object of the invention is to provide a coupler in which a locking engagement between opposing couplers will be positive and firm, and whereby the opposing couplers when engaged will be effectually locked in their engaging position.

Another feature of the invention is to provide a means whereby the drawhead may be readily removed from the car for any purpose that may be desired, and whereby also the drawhead may be capable of coupling with an opposing drawhead of a greater or a less height and whereby further the uncoupling may be effected in a manner which will not expose the operator, and which likewise may be conveniently and expeditiously effected.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

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

Figure 1 is a side elevation of the outer portion of the coupler, that portion which is located beneath the car being in vertical section. Fig. 2 is a horizontal section taken through the draft plates, the coupler proper being shown in plan view, and one of its members, the upper one, as broken away. Fig. 3 is a vertical transverse section taken essentially on the line 3—3 of Fig. 1. Fig. 4 is a partial side elevation and partial vertical longitudinal section of two opposing couplers, illustrating the coupled position in positive lines and the uncoupled position in dotted lines. Fig. 5 is a horizontal section taken essentially on the line 5—5 of Fig. 4. Fig. 6 is a vertical section taken practically on the line 6—6 of Fig. 4. Fig. 7 is a rear view of the draft plates; and Fig. 8 is a front elevation of a coupler, illustrating the uncoupling lever connected therewith.

In carrying out the invention the two central timbers A, between which the coupler is to be passed, are carried beyond the sill of the car to form buffing timbers, and the buffing sections of the timbers are designated as A'. The timbers A, adjacent to the sill, are provided with slide ways 10, preferably of metal, and in the slide-ways two opposing draft plates 11 and 12, are located, which draft plates are capable of more or less vertical movement. Each draft plate is provided at its center with a horizontal slot 12^a and the plates are connected by bolts 13, which bolts are encircled by coiled springs 14, the ends of the springs bearing against opposing plates. These plates are adapted as an anchorage for the drawhead B.

The drawhead consists of a body bar 15, which bar is provided at its outer end with an arrow-head 16, and at its inner end the bar 15 is reduced in diameter, forming a rod 17, which rod is passed through the longitudinal slots 12^a of the draft plates and terminates in a head 18. The head is capable of entering the horizontal slots or openings 12^a in the draft plates, and after it is passed through the slots of both plates the body bar of the coupler is turned, bringing the arrow head to a vertical position and likewise its locking or draft head 18, and the draft head will in that event extend across the slot 12^a in the inner draft plate, as shown in Fig. 7, and the body bar of the drawhead will thereby be connected with the draft plates. The draft head 18 of the body bar is likèwise connected with the drawbar and draw mechanism of the coupler, and the latter may be of any suitable or approved construction.

In addition to the arrow-headed body bar 15, a second or upper bar 19, is provided, and the upper bar is hinged to the body bar in front of the forward draft plate, as shown at 20 in the drawings, especially in Figs. 1 and 2; and it may here be remarked that where the upper bar of the drawhead is hinged to

the body bar the latter is provided with an upwardly-extending projection 21, as best shown in Fig. 1, whereby quite a space will be made to intervene the upper bar and the body bar. The upper bar 19, is provided with a half-arrow head 22, which extends downwardly in direction of the arrow-head of the body bar. The top bar 19 of the drawhead is provided with a longitudinal slot 23, adjacent to its arrow head, and the body bar is provided with a like slot 24 similarly located. The arrow-head of the body bar is provided with a link opening 25, produced longitudinally therein, and a pin opening 26 made vertically therein across the link opening, and these two openings are adapted to be brought into use when the drawhead is to be used in coupling with an ordinary link and pin coupler.

One fluke of the arrow head of the body bar of the drawhead, preferably the upper fluke, is provided with a horizontal slot or opening 27, extending through from side to side. This opening 27, is preferably made rectangular in cross section throughout the major portion of its length, but one end of the opening is preferably made cylindrical in cross section, as indicated at 27^a in Figs. 5 and 6. The opening 27 is adapted to receive a locking bar 28, and that portion of the locking bar which is contained within the rectangular portion of the opening 27 is of corresponding cross-sectional shape, and the portion of the bar which extends in the circular section 27^a of the said opening 27, is made preferably circular in cross section and is considerably reduced in diameter from the body of the bar, as shown best in Fig. 6. Normally the locking bar 28, is adapted to extend beyond one side of the body bar of the coupler, and the projecting end of the said bar has connected with it a chain 29, or the equivalent thereof, the said chain being attached to a shifting or uncoupling lever 30, pivotally connected with the sill or under portion of the car in any suitable or approved manner, said lever being well shown in Fig. 8. The circular portion of the locking bar is encircled by a coil spring 31, and this spring has bearing at one end against the inner end of the circular section 27^a of the slot or opening in which the locking bar has movement, while the opposite end of the spring is made to bear against a cap plate 32, located upon the outer end of the reduced section of the locking bar, as shown in both Figs. 5 and 6. In the same fluke of the body portion of the drawhead in which the locking bar is located, a vertical opening 33, is made, and in this opening a latch pin 34, has vertical and free movement, the lower end of the latch bar being beveled as shown at 34^a in Fig. 4, while what may be termed the outer end of the latch pin is provided preferably about midway between its ends with a recess 35, and this recess is adapted to receive a locking pin 28 when the opposing couplers are in coupling position; and as shown in Fig. 4, when the couplers are in a locking position the latch pin of one of the body bars of the drawhead will enter the slot 24 in the body bar of the opposing coupler, and the latch in the body bar of the opposing coupler will enter the slot 23 in the hinged or top bar of the other coupler.

In the operation of the coupler, when two opposing couplers are brought together, the arrow-heads of the body bars will ride one over the other, and the hinged or upper bars will perform the same movement.

It may here be remarked that when a coupling is to be effected, the latch pins will be out of engagement with the locking bars 28, and the pins will extend below the flukes in which they are located, as shown in dotted lines in Fig. 4. After the heads of the bar of the coupler have ridden one past the other to practically the locking position, when forward draft is brought to bear upon the train the inclined portions of the heads will be brought to an engagement, as shown in Fig. 4, and the latch pin in the upper fluke of the uppermost body bar will be forced upward by coming in contact with the inclined surface of the head of the hinged bar immediately above it, and the latch pin will thereby be forced upward until its recess 25, is brought in registry with the locking bar in the uppermost coupled arrow-head, whereupon the spring 31 will act upon the said locking bar to draw the wider portion thereof in the recess of the latch pin, as shown in positive lines Fig. 4, thus locking the uppermost fluke of the uppermost body bar in engagement with the hinged bar immediately above it, while at the same time the pin in the upper fluke of the lower body bar will be forced upward by the inclined surface of the lower fluke of the upper body bar, and the locking pin in the lower body bar will be brought in locking engagement also with the latch pin in that bar, locking that pin in engagement with the uppermost body bar, as is also shown in Fig. 4.

In the event an uncoupling is desired, the train is preferably slacked, and the levers 30, are manipulated to draw the locking bars from engagement with the latch pins, permitting them to drop; and after the locking bars have been drawn outward as far as possible a continued movement upon the levers in the same direction will cause the body bars to be moved laterally, one away from the other, ample room being provided for this purpose by the length of the slots 12^a in the draft plates. In this manner a speedy and efficient coupling and uncoupling may be effected without the necessity of a person standing between the cars. The upper or hinged bar of the drawhead is primarily employed in order to permit coupling with an opposed drawhead of greater or less height.

It may here be remarked that the arrow heads of the drawheads can only travel in direction of opposing cars a predetermined distance, their inward movement being limited

by the buffing timbers being brought in contact. Again it is evident that the drawhead proper should have some support between its outer end and the draft plates. This support is provided by connecting the lower ends of the buffing timbers A′ by means of a bar 39, and placing a second bar 40 in cushioned engagement with the lower bar, the upper bar being adapted to support the body bar of the drawhead, as shown in Figs. 1 and 3. The cushioning is effected by attaching pins 41 to the upper bar 40, and permitting them to extend downward through openings in the lower bar 39, and encircling the pins with spring cushions 42.

The two drawheads are rendered continuous by connecting the opposing draw bars of the draw heads preferably by two rods shown in dotted lines in the drawings. I desire it to be understood that a single or double buffer of any approved type may be employed.

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

1. In a car coupler, a drawhead comprising a body bar capable of limited movement at its rear end, the body bar terminating in substantially an arrow head, a second bar having a hinged connection with the body bar and provided with a head at its upper end normally engaging with the arrow head of the body bar, and a latch bar adapted for locking engagement with the locking bar, contained in the head of the body bar of the drawhead, as and for the purpose specified.

2. In a car coupler, a body bar terminating at its outer end in an arrow-head, said arrow head containing a locking bar, and a latch bar adapted for locking engagement with the locking bar, and an upper bar having hinged connection at one end with the body bar and terminating at its outer end in a head provided with inclined inner and outer faces, the head of the upper bar being adapted to be normally in engagement with the head of the body bar, the upper or hinged bar being provided with a slot adapted to receive the latch of the body bar, as and for the purpose specified.

3. In a car coupler, the combination, with spaced draft plates adapted to have vertical movement, and cushions intervening the draft plates, said draft plates being provided with aligning slots, of the drawhead, the rear portion of which is passed through the slots in the draft plates, and terminates at its rear end in a head adapted to stand normally at right angles to the slots in the draft plates, as and for the purpose set forth.

4. In a car coupler, the combination, with buffing timbers, and cushioned draft plates having sliding movement between the timbers, of a drawhead detachably connected with the cushioned draft plates, the said drawhead comprising an arrow-headed body bar connected directly with the cushioned plates, a hinged bar connected with the body bar and provided with a head inclined upon the front and rear faces, and a locking and latch bar carried by the head of the body bar, as and for the purpose specified.

5. A car coupler provided with an arrow head, capable of limited lateral and vertical movement, a hinged bar located above the arrow head and having inclined front and rear faces, a spring-controlled locking bar carried by the arrow head, a gravity latch bar adapted for engagement with the locking bar, and a shifting lever connected with the locking bar, as and for the purpose set forth.

MORSE P. SCOTT.

Witnesses:
J. FRED. ACKER,
EDGAR TATE.