

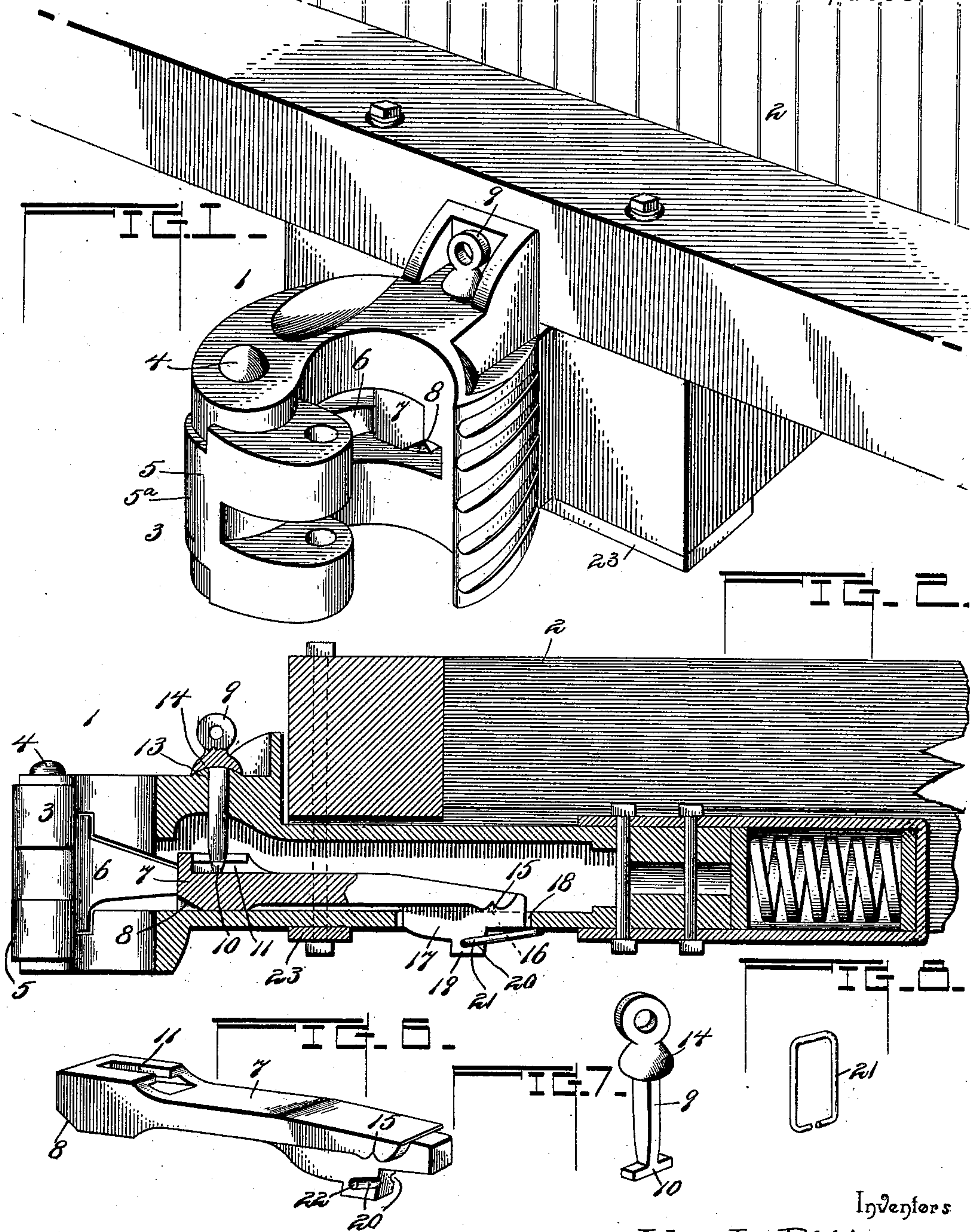
(No Model.)

2 Sheets—Sheet 1.

J. L. RITTER & J. M. MOYERS.  
CAR COUPLING.

No. 600,993.

Patented Mar. 22, 1898.



Witnesses

Milton O'Connell,

J. F. Riley

By their Attorneys,

Inventors  
John L. Ritter  
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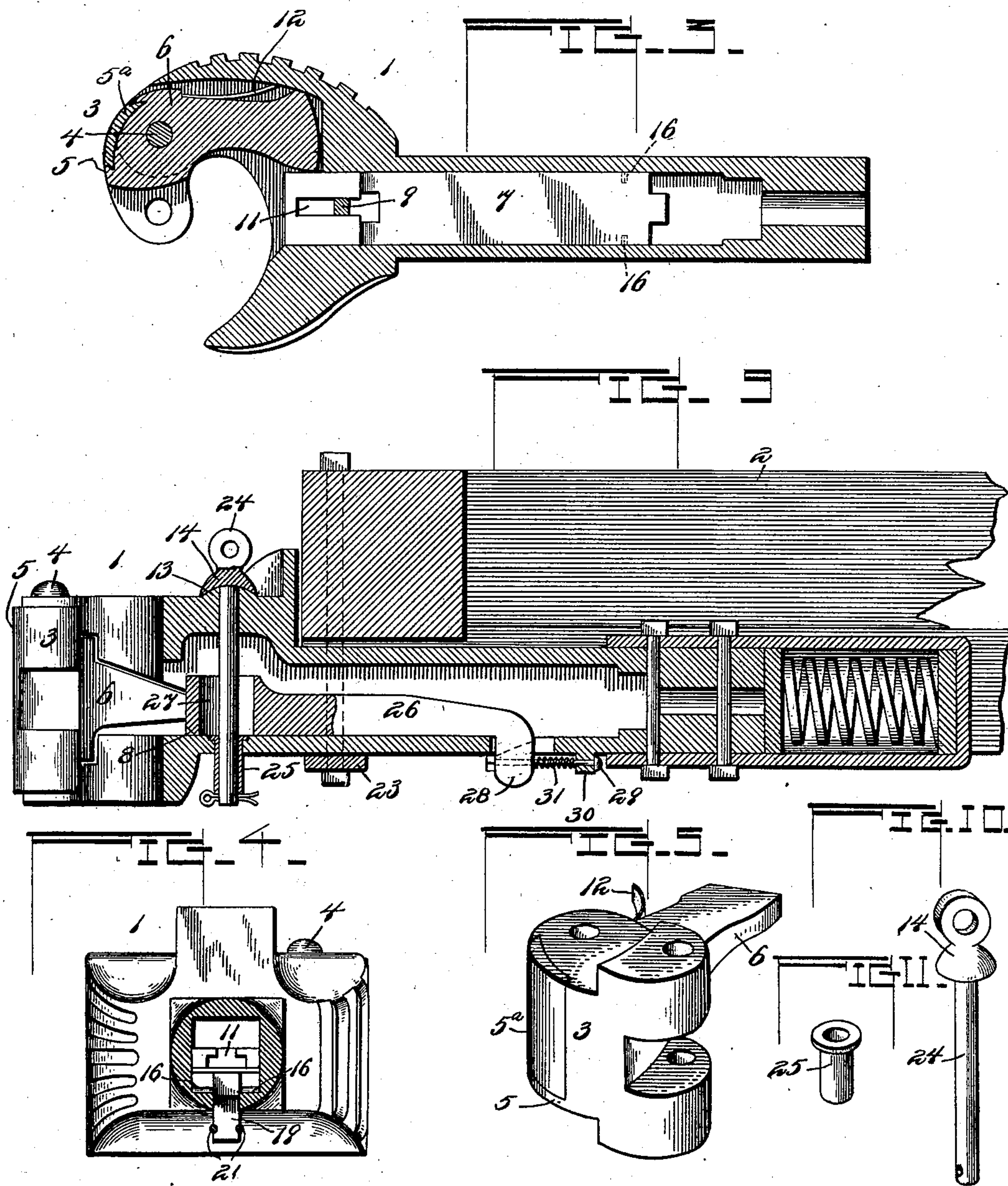
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C. A. Snow & Co.



# UNITED STATES PATENT OFFICE.

JOHN L. RITTER, OF SHENANDOAH, AND JAMES M. MOYERS, OF RICHMOND,  
VIRGINIA, ASSIGNORS OF ONE-THIRD TO JAMES G. WHITLOCK, OF RICH-  
MOND, VIRGINIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 600,993, dated March 22, 1898.

Application filed April 8, 1897. Serial No. 631,297. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN L. RITTER, re-  
siding at Shenandoah, in the county of Page,  
and JAMES M. MOYERS, residing at Richmond,  
5 in the county of Henrico, State of Virginia,  
citizens of the United States, have invented  
a new and useful Car-Coupling, of which the  
following is a specification.

The invention relates to improvements in  
10 car-couplings.

The object of the present invention is to  
improve the construction of car-couplings of  
the Janney type and to provide a simple, in-  
expensive, and efficient one which will be  
15 capable of coupling automatically and of au-  
tomatically uncoupling should the draw-head  
pull out from the car by reason of any break-  
age of the draft mechanism and thereby pre-  
vent the draw-head from falling upon the  
20 track and wrecking or otherwise injuring the  
cars behind it.

A further object of the invention is to re-  
lieve the draw-head of wear and increase its  
durability and to enable any of the parts of  
25 the coupling to be readily replaced, if broken,  
without necessitating the removal of the  
draw-head from the car.

Another object of the invention is to ex-  
clude water from the draw-head and to pro-  
vide a pin which will effectually shed wa-  
ter and prevent the same from percolating  
30 through the pin perforations.

The invention consists in the construction  
and novel combination and arrangement of  
35 parts, as hereinafter fully described, illus-  
trated in the drawings, and pointed out in the  
claims hereto appended.

In the drawings, Figure 1 is a perspective  
view of a car-coupling constructed in accord-  
40 ance with this invention and shown applied  
to a car. Fig. 2 is a longitudinal sectional  
view. Fig. 3 is a horizontal sectional view.  
Fig. 4 is a transverse sectional view. Fig. 5  
is a detail perspective view of the knuckle.  
45 Fig. 6 is a similar view of the locking-bar.  
Fig. 7 is a detail view of the lifting-pin. Fig.  
8 is a similar view of the link for holding the  
locking-bar normally in operative position.  
Fig. 9 is a longitudinal sectional view illus-  
50 trating a modification of the invention. Figs.

10 and 11 are detail views of parts of the  
same.

Like numerals of reference designate cor-  
responding parts in the several figures of the  
drawings.

1 designates a draw-head of the usual con-  
figuration, provided with strengthening-ribs  
and mounted on a car 2 in the usual manner,  
and a knuckle 3 is pivoted to the draw-head  
at one side thereof in the usual manner by a  
60 knuckle-pin 4. When cars come together for  
coupling, the side of the draw-head to which  
the knuckle is pivoted is subjected to much  
wear, and in a short time it becomes worn to  
the knuckle-pin perforations and has to be  
65 discarded. In order to relieve the draw-head  
of this wear and prevent it from being struck  
by another draw-head, the knuckle is pro-  
vided at its outer side with an enlargement  
or bulged portion 5, which projects beyond  
70 the draw-head and which receives the blows  
incident to coupling. By this construction  
the knuckle is subjected to all the wear and  
tear and may be readily replaced by another  
one when it becomes worn, and the draw-head  
75 is enabled to last for a much longer time.

The knuckle, which is constructed of steel,  
is provided in its bulged portion 5 with a ver-  
tical recess receiving a wear-plate 5<sup>a</sup>, of mal-  
leable metal or other material softer than  
80 steel, in order to form a cushion and enable  
the same to be readily removed when worn  
without discarding the knuckle. The recess,  
which is dovetailed or undercut at its side  
edges, extends from the top of the adjacent  
85 portion of the knuckle to within a short dis-  
tance of the bottom thereof in order to form  
a supporting shoulder or ledge upon which  
the wear-plate rests. The wear-plate, which  
is interlocked with the recess, has its side  
90 edges beveled to conform to the configuration  
of the side walls of the recess, as clearly shown  
in Figs. 3 and 5 of the accompanying draw-  
ings. The recess, which receives the remov-  
able wear-plate 5<sup>a</sup>, is cut sufficiently deep to  
95 extend inward beyond the adjacent edges of  
the front portion of the draw-head, so that  
the upper edge of the removable wear-plate  
will be retained in the recess by the draw-  
head when the parts are assembled in order 100



to avoid any liability of the wear-plate being jolted or thrown out of the recess during the operation of coupling or when a train is passing over a rough road-bed.

5 When the knuckle is closed, its arm 6 is engaged by an upwardly-swinging locking-bar 7, which is provided at its front end with a beveled face 8, adapted when the knuckle closes to enable the arm 6 to lift the locking-  
10 bar to couple automatically. The locking-bar 7, which is disposed longitudinally of the draw-head in an opening of the shank or draw-bar, is connected with a vertically-movable  
15 lifting-pin 9, which passes through a perforation of the draw-head and which is designed to be connected with any suitable operating mechanism to enable the operation of uncoupling to be effected from the top and sides of a car or the platform of a coach. The lower  
20 end of the lifting-pin is provided with a T-shaped head 10 and engages a slot 11 of the locking-bar 7. The slot 11 of the locking-bar is disposed longitudinally of the front end of the same and is provided with undercut edges  
25 to receive the laterally-projecting arms of the head 10. The rear end of the slot 11 is open, it being formed in an enlargement of the upper face of the locking-bar, and the lifting-pin may be readily engaged with and disengaged from the locking-bar, and the latter is  
30 also capable of a longitudinal movement independent of the lifting-pin for the purpose hereinafter described. By swinging the locking-bar upward the arm of the knuckle is released, and it is thrown open by a spring 12,  
35 whereby the draw-head and the knuckle are in position for automatic coupling when the knuckle is open, and the latter does not have to be set by hand preparatory to coupling.  
40 The draw-head is provided at its top around the perforation for the lifting-pin with a boss 13, having a convex upper face, and the pin is provided at its head with a cap 14, substantially concavo-convex and presenting a lower  
45 concave face which conforms to the configuration of the boss 13. This construction enables the pin 9 to shed water, and it effectually prevents the same from percolating through the perforation of the draw-head and  
50 freezing the inside of the same, and thereby interfering with the operation of the car-coupling.

The rear end of the locking-bar is provided with bearing-recesses 15, which are supported  
55 on bearings 16 of the draw-head shank or draw-bar, and the said locking-bar is provided with a flange 17, which depends through a slot 18 at the bottom of the shank or draw-bar. The front or outer edge of the flange  
60 17 is beveled or inclined, and it has a lug 19 at its back. The lug is provided with opposite slightly-inclined grooves 20, which receive the sides of a substantially rectangular link 21. The link 21 has its front end split, and the  
65 terminals formed by splitting the link engage a perforation 22 at the front ends of the grooves 20. The link 21, which forms a lock-

ing device, is constructed of malleable metal and engages the lower face of the shank or draw-bar, being of greater width than the  
70 slot 18, and it is adapted to hold the rear end of the locking-bar in the slot. Should the draw-head become loose by reason of the breakage of any of the draft mechanism, it will be pulled out sufficiently to carry the in-  
75 clined edge of the flange 17 into contact with the carrier or supporting-strap 23, whereby the rear portion of the locking-bar will be forced upward against the action of the locking device 21, lifting the locking-bar off its  
80 bearings and causing it, by reason of the engagement of the lug 19 with the carrier strap or iron 23, to move inward or rearward sufficiently to release the arm of the knuckle and uncouple the draw-head. This will pre-  
85 vent the draw-head from pulling out any farther, and it cannot fall upon the track and wreck or otherwise injure the cars in rear of it. The slot 11, which receives the lifting-pin, permits the necessary longitudinal move-  
90 ment of the locking-bar.

In Fig. 9 of the accompanying drawings is illustrated a modification of the invention in which the lifting-pin is extended entirely  
95 through the draw-head, and this lifting-pin 24 carries a sleeve 25, which is provided at its upper end with an annular flange forming a head and normally seated in a recess of the bottom of the draw-head, so that its upper  
100 face is flush with the same. The lower end of the lifting-pin 24 is perforated and receives a split key or other suitable fastening device, upon which the sleeve 25 rests, and when the lifting-pin is raised the sleeve engages the  
105 bottom of the locking-bar 26 and carries the same out of engagement with the arm of the knuckle. The slot 27 for the reception of the lifting-pin extends entirely through the locking-bar, as shown.

The rear end of the locking-bar 26 is pro-  
110 vided with a depending lug 28, which extends through a slot of the bottom of the shank or draw-bar, and it is perforated for the reception of a longitudinal bolt 29, which also passes  
115 through a perforation of a lug or projection of the shank or draw-bar. A spiral spring 31, which is disposed on the bolt 29, is interposed between the lugs 28 and 30 and holds the locking-bar normally extended, and the opening or perforation of the lug 28, as illus-  
120 trated in dotted lines in the accompanying drawings, is of sufficient size to permit the necessary swinging movement of the locking-bar. Should the draw-head become detached from the car and be drawn outward, the lug  
125 28 will come in contact with the carrier iron or strap and will be drawn rearward to release the arm of the knuckle, whereby the draw-head will be uncoupled. The spring 31 will then return the locking-bar to its initial  
130 position as soon as the lug 28 is relieved of pressure.

It will be seen that the car-coupling is simple, strong, and durable, that it is positive,



reliable, and automatic in its operation, and that access is readily had to its parts. It will also be apparent that the draw-head is shielded and protected and its durability is greatly increased as the knuckle is subjected to all of the wear; also, the particular construction of the draw-head and the lifting-pin is adapted to shed water and prevent the same from percolating through the perforation of the draw-head, and that any water collecting on top of the draw-head cannot enter the perforation when the lifting-pin is raised, because the boss or enlargement extends above the upper face of the draw-head and surrounds the perforation.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What we claim is—

1. In a car-coupling, the combination of a draw-head, a knuckle, an upwardly-swinging locking-bar engaging the arm of the knuckle and provided with a depending lug extending through the bottom of the shank or draw-bar in position to be engaged by a strap or carrier-iron, whereby the locking-bar will be forced rearward should the draw-head be pulled outward, and means for lifting the locking-bar, substantially as described.

2. In a car-coupling, the combination of a draw-head, a knuckle, an upwardly-swinging locking-bar engaging the arm of the knuckle and provided with a depending lug extending through the bottom of the shank or draw-bar in position to be engaged by a strap or carrier-iron, whereby the locking-bar will be forced rearward should the draw-head be pulled outward, a yieldable device engaging the lug and the draw-head for holding the locking-bar normally extended, and means for raising the locking-bar, substantially as described.

3. In a car-coupling, the combination of a draw-head, a knuckle pivoted to the same, an upwardly-swinging locking-bar capable of a limited longitudinal movement and provided with a depending flange extending through the bottom of the shank or draw-bar, beveled at its front edge and provided with a lug, said lug being grooved at opposite sides, and a link split at its front end and interlocked with the lug at the said grooves, substantially as and for the purpose described.

4. In a car-coupling, the combination of a draw-head, a knuckle pivoted to the same, a locking-bar removably arranged on suitable bearings adapted to swing upward and capable of a limited longitudinal movement when lifted off its bearings, said locking-bar being provided at its top with a longitudinal slot open at its rear end, a pin arranged in a perforation of the draw-head and provided at its lower end with a T-shaped head interlocked with the said slot, and a lug depending from the rear end of the locking-bar and extending through the shank or draw-bar, substantially as described.

5. In a car-coupling, the combination of a draw-head, a knuckle pivoted to the same and provided at its front with a bulged portion or enlargement extending in advance of the draw-head and provided with a recess extending from the top of the knuckle and terminating short of the bottom thereof, and a removable wear-plate interlocked with the knuckle and fitting in the recess thereof, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOHN L. RITTER.  
JAMES M. MOYERS.

Witnesses:

W. A. RICKS,  
W. R. HARWOOD.