

(No Model.)

2 Sheets—Sheet 1.

F. GOFF & T. H. JOINER.
CAR COUPLING.

No. 499,827.

Patented June 20, 1893.

Fig. 1.

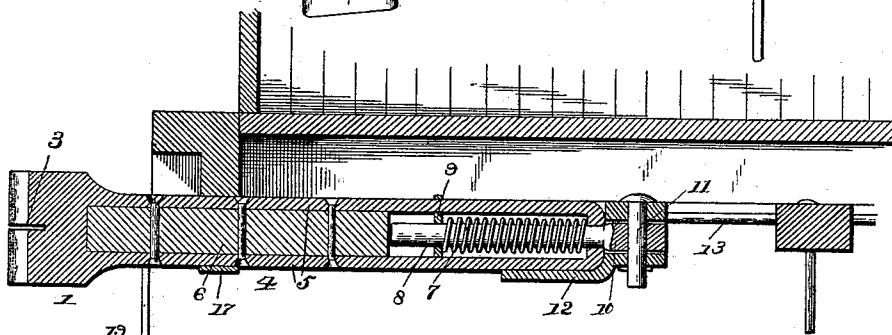
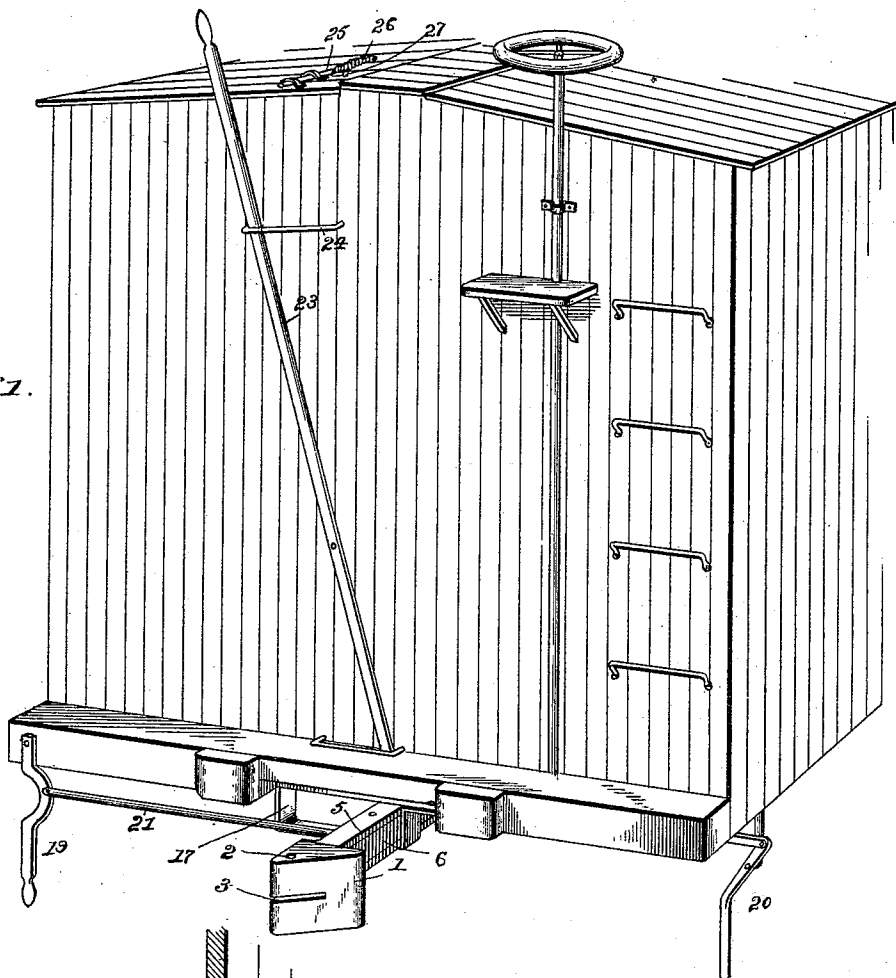


Fig. 3.

Witnesses

W. Johnson
H. H. Riley

Inventors

Frank Goff
and
Thomas H. Joiner

By their Attorneys,

C. A. Snow & Co.

(No Model.)

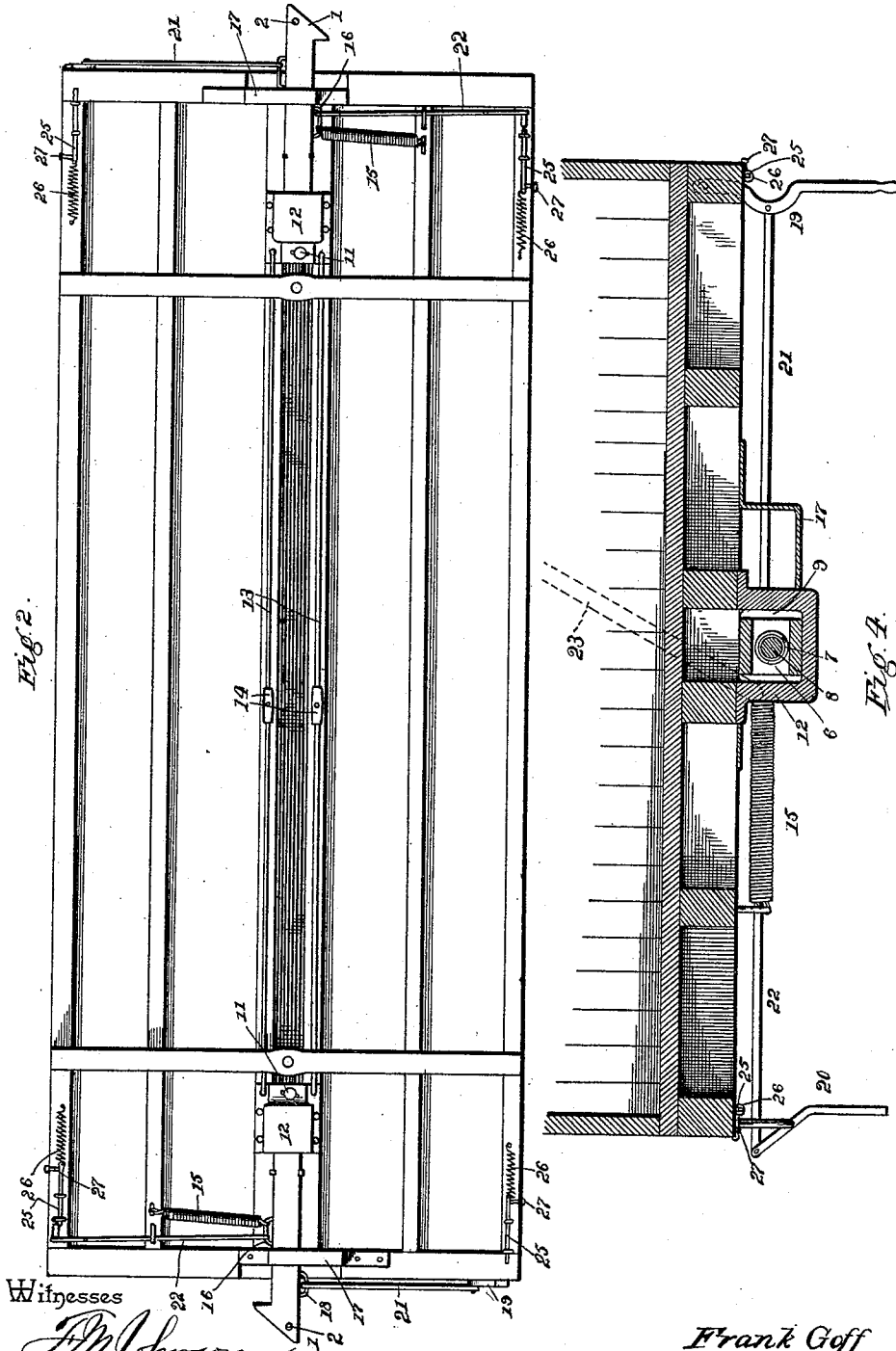
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Frank Goff
Thomas H. Joiner

Thomas H. Jernier

Chas. Snowble.

UNITED STATES PATENT OFFICE.

FRANK GOFF, OF CAMDEN, AND THOMAS H. JOINER, OF BURLINGTON, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 499,827, dated June 20, 1893.

Application filed October 31, 1892. Serial No. 450,526. (No model.)

To all whom it may concern:

Be it known that we, FRANK GOFF, of Camden, in the county of Camden, and THOMAS H. JOINER, of Burlington, in the county of Burlington, State of New Jersey, 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 car couplings.

The object of the present invention is to provide a simple and comparatively inexpensive car coupling adapted to couple automatically when cars come together and capable of being readily uncoupled from the top of a car or the sides thereof without necessitating a person going between cars.

A further object of the invention is to provide an automatic car coupling which may be readily cut off or uncoupled and retained in that position as long as desired.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a perspective view of an end of a car provided with a car coupling constructed in accordance with this invention. Fig. 2 is a reverse plan view. Fig. 3 is a longitudinal sectional view. Fig. 4 is a transverse sectional view.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates an arrow-shaped draw-head which is vertically elongated and adapted to engage a twin draw-head of another car whereby the vertically elongated heads will be adapted to engage each other although the draw-heads should be arranged at different heights as is often the case; and by this arrangement it will be seen that link lifters and other devices for compensating for the difference in heights of the draw-heads of cars will be dispensed with and cars will be adapted to couple automatically with draw-heads at different elevations.

The draw-head 1 which is provided with a coupling pin perforation 2 and a link slot 3, is formed integral with a draw-bar 4 composed of parallel sides 5 forming a longitudinal opening and receiving therein at the front

portion thereof a wooden block 6 and at the rear portion of the opening a spiral spring 7. The spiral spring 7 is disposed on a longitudinally arranged pin 8 which passes through an opening in the rear end of the draw-bar and which has secured to its front-end a plate 9 having opposite recesses to receive the sides of the draw-bar and forming a guide for the pin and secured thereto by a key. The rear end 10 of the longitudinal pin is enlarged and perforated to receive a pivot 11 which secures the pin and the draw-head within a casing 12 and allows the draw-bar and draw-head sufficient horizontal swing for coupling and uncoupling. The casing 12 is approximately rectangular in cross section and has its rear end reduced to receive the enlarged portion of the pin and it is provided at its top with side flanges which are secured to the timbers of the car. The casings at the ends of the car are connected by parallel draft rods 13 each of which is composed of two sections connected at their adjacent ends by a turn buckle 14 whereby the draft rods may be adjusted as required. The draw-head is held in position when coupled by a spiral spring 15 which has one end secured to the car near one side thereof and has its other end provided with an eye and connected with a longitudinally disposed loop 16 whereby the draft bar may move longitudinally without interfering with the spring 15. The draw-bar is supported near the draw-head by a yoke or keeper 17 which depends from the car and is disposed transversely of the same. The block of wood 6 strengthens and supports the draw-bar and is provided at one side with the said loop 16 and at the opposite side with a similar loop 18, and these loops are preferably constructed of staples or clips. The car is uncoupled from the sides by depending levers 19 and 20 which are connected with the draw-bar by rods 21 and 22, the former of which is pivoted to the lever 19 below the fulcruming point whereby when the lever 19 is drawn outward it will pull the draw-head with it. The other lever 20 is fulcrumed on a bracket and has the rod 22 pivoted to it above its fulcruming point whereby when this lever is pulled outward the draw-bar will be pushed toward the opposite side of the car in the same direction as when actuated by the lever 19.

The uncoupling is performed from the top

of the car by an upwardly extending lever 23 which is fulcrumed on the end of the car and has one end arranged to engage the draw-bar to move the same against the action of the spring and its other end extends above the top of the car at one side of the running board and a keeper 24 is provided and is arranged near the top of the car to receive the lever 23. The longitudinally disposed loops 16 and 18 permit the draw-bar to move longitudinally, independently of the spring 15 and the connecting rods 21 and 22. The draw-head is held at one side of the car against the action of the spring 15 and is thereby cut off, by means of spring actuated bolts 25 arranged to engage the levers 19, 20 and 23. The bolts 25 are connected at their rear ends with springs 26 and are provided with handles 27 and when distended against the action of the springs, and engaged with the levers, they are held in such engagement by friction which is caused by the spring 15 forcing such levers in engagement with the bolts. When it is desired to return the draw-head into position preparatory for coupling, a slight pressure on any one of the levers will release the bolts 25 and their springs 26 will withdraw them, thereby allowing the spring 15 to act.

It will be seen that the car coupling is simple and inexpensive in construction and effective in operation, that it is adapted to couple automatically and that it may be readily uncoupled from either the top or sides of a car without going between cars.

We desire to be understood that changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What we claim is—

1. In a car coupling the combination of a draw-bar having an elongated arrow-shaped draw-head and capable of a limited lateral movement, a spring for holding the draw-head coupled, levers connected with the sides of a car, rods connected with the draw-head, one of the rods being connected with the levers below the fulcruming point and the other being connected with the other lever above the fulcruming point, whereby an outward movement of the levers will actuate the draw-bar in the same direction, and an upright lever fulcrumed on the end of the car and having its lower end arranged to engage the draw-head and its upper end extended above the top of the car, substantially as described.

2. In a car coupling the combination of a casing, a draw-bar provided at its front end with an arrow-shaped draw-head and having a longitudinal opening and having its rear end arranged in said casing, a pin passing through the rear end of the draw-bar and having its front portion arranged in the longitudinal opening thereof and having its rear end pivoted to the casing and a spiral spring disposed on the front portion of the pin and

arranged in the longitudinal opening of the draw-bar and interposed between the front end of the pin and the back of the draw-bar, substantially as described.

3. In a car coupling the combination of a casing rectangular in cross section and provided with securing flanges and having its front ends reduced, a draw-bar provided at its front end with an arrow-shaped draw-head and having a longitudinal opening forming opposite sides, a longitudinal pin passing through the back of the draw-bar and extending into the longitudinal opening thereof and having its rear end pivoted in the reduced portion of the casing, a spiral spring disposed on the front portion of the pin and interposed between the front end of the latter and the back of the draw-bar and the block secured between the sides of the draw-bar and arranged at the front thereof, substantially as described.

4. In a car coupling the combination of a casing, a draw-bar having a longitudinal opening and provided at its front end with an arrow-shaped draw-head, a pin passing through the back of the draw-bar and having its rear end pivoted in the casing, a spiral spring disposed on the pin and interposed between the back of the draw-bar and the front of the pin, a block arranged in the longitudinal opening at the front thereof and provided with longitudinally disposed loops, a spiral spring having one end secured to a car and having its other end connected with one of the loops, levers fulcrumed at the sides of the car and the rods connected with the levers and provided at their inner ends with perforations receiving the loops substantially as described.

5. In a car coupling the combination with a car of the casing secured thereto, a draw-bar having a longitudinal opening and provided at its front end with an arrow-shaped draw-head, a pin passing through the back of the draw-bar and having its rear end pivoted in the casing, a spring disposed on the front portion of the pin and interposed between the back of the draw-head and the front end of the pin, levers at the sides of the car, rods connecting the levers with the draw-bar, an upright lever fulcrumed on an end of the car and having its lower end arranged to engage the draw-bar and spring actuated bolts arranged to engage the lever to hold same against movement and having springs connected with their rear ends to withdraw them from such engagement, substantially as and for the purpose described.

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

FRANK GOFF.
THOS. H. JOINER.

Witnesses:

J. H. SIGGERS,
BERNICE A. WOOD.