(No Model.)

J. MILLER.

CAR COUPLING.

No. 589,363. Patented Aug. 31, 1897.

Fig. 1.

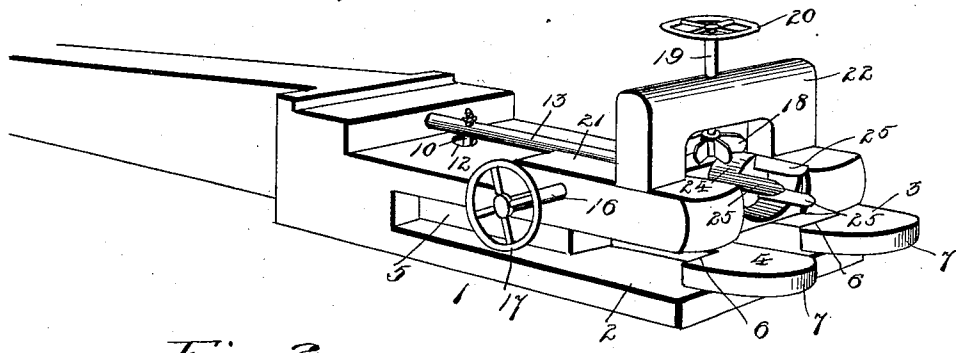


Fig. 2.

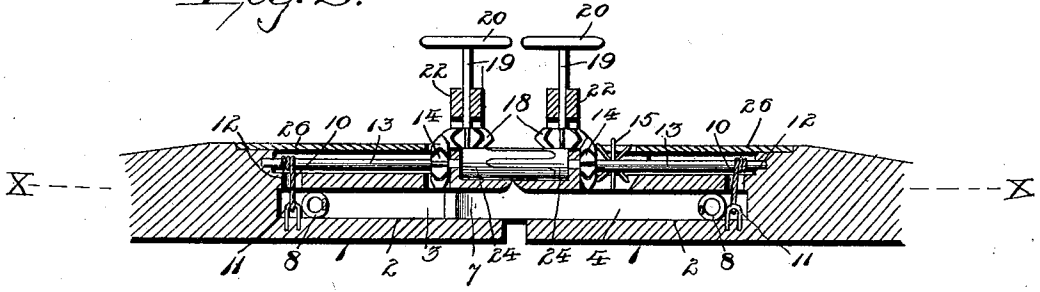


Fig. 3.

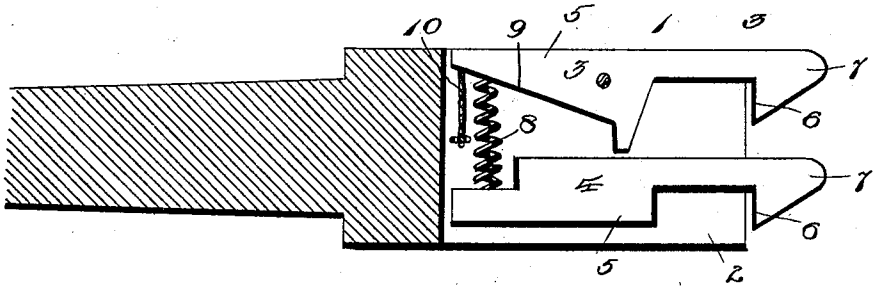
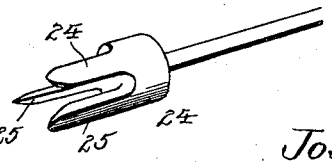


Fig. 4.



WITNESSES

T. L. Mockabee

A. M. Boynton

INVENTOR

Josiah Miller,

By John Wedderburn

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSIAH MILLER, OF MANSFIELD, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 589,363, dated August 31, 1897.

Application filed March 30, 1897. Serial No. 629,889. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH MILLER, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to car-couplings; and it consists, essentially, of two heads having twin jaws, one of the jaws being movable and the other stationary and arranged in alternation in opposite heads.

The invention further consists of the details of construction, arrangement, and combination of parts, which will be more fully hereinafter described and claimed.

The object of the present invention is to provide effective means for causing an automatic coupling operation when two heads engage each other and operate from either the top or side of a car in uncoupling or separating the heads by positive mechanism which is strong and durable.

In the accompanying drawings, Figure 1 is a perspective view of a draw-head embodying the invention. Fig. 2 is a central longitudinal vertical section of two heads shown coupled. Fig. 3 is a horizontal section on the line *x x*, Fig. 2, of one of the heads. Fig. 4 is a detail perspective view of one of the operating parts.

Referring to the drawings, wherein similar numerals of reference are employed to indicate corresponding parts in the several views, the numeral 1 designates a head of a car-coupling, which in this instance is flattened and has a slot 2 extending through the same in a horizontal plane from side to side and opening out at the front end. Within the said slot 2 and arranged horizontally are a pair of coupling-jaws 3 and 4. The jaw 3 is pivotally mounted in the slot 2 and the jaw 4 is stationary, and both of said jaws are positioned longitudinally in the slot 2—that is, they each have an elongated shank 5, which projects backwardly into the said slot 2, and at the outer portions have openings 6, extending inwardly from one side a sufficient distance from the outer end of each to form arrow-heads 7, which have curved beveled engaging surfaces. The said openings 6 are located on the same side, and interposed between the rear of the shanks 5 is a coiled or analogous spring 8 to normally hold the movable jaw 3 in proper position. The rear portion of the shank of the jaw 3 on the inner side is beveled, as at 9, to remove the material and compensate for the action of the said shank within the head without binding or jamming against any other adjacent part. The said coiled or other spring 8 bears against the beveled portion of the jaw 3, and also secured to the rear part of the shank of the said jaw 3 is a cable or chain 10, which passes through a guide 11 and then upwardly through a rear central opening 12 in the upper part of the jaw, and is secured to and adapted to be wound upon a longitudinally-disposed shaft 13, having bearing at its opposite ends in the front and rear portions of the upper part of the head. Near the front end of the shaft 13 is a compound beveled gear 14, with the rear of which a beveled gear 15 engages, the latter being mounted on a counter-shaft 16, having an operating-wheel or analogous device 17 on its outer end at the side of the head, or extended clear out to the side of the car to which the draw-head is attached for convenient operation at that point. Another gear 18 engages the gear 14, it being carried by a vertical shaft 19, having an operating-wheel or analogous device 20 thereon located conveniently on a platform, or extended to the top of the car.

The shafts 16 and 19 are mounted in suitable horizontal and vertical bearings 21 and 22, the vertical bearing 22 being arched to accommodate the operation of the several parts. On the extreme outer end of the shaft 13 and projecting through a slot 23 in advance of the vertical bearing 22 is a coupling-head 24, comprising three forwardly-projecting arms 25, which are spaced apart or have slots formed between them and are adapted to engage a similar construction carried by a coupling-head in the opposite draw-head, and the operation of which will be presently described. A suitable covering-plate 26 is adapted to be placed over the shaft 13 and

proper mechanism coöperating therewith to protect and shield the same.

In operation two draw-heads coming together will cause an automatic coupling action between the twin jaws 3 and 4, carried by each head, in view of the reverse arrangement—that is, the stationary jaw in one head engages the movable jaw in the opposite head, and vice versa—and by this means a reliable connection is established between two cars. In releasing the jaws for uncoupling cars either one of the shafts 16 and 19 are operated at one side or in connection with one draw-head, and this operation will revolve the shaft 13, which will wind the cable or chain 12 thereon and pull the inner reduced end of the jaw 3 against the spring 8 and throw the outer end or head of said jaw laterally in the slot 2 and release the same from the opposite stationary jaw through which it has been in engagement. Simultaneously with this operation and through the coupling-head on the outer end of the shaft 13, which remains in connection with a similar head in the opposite draw-head until the two draw-heads are separated, the shaft 13, carried by the opposite draw-head, is operated to actuate the movable jaw therein similarly to that heretofore described, and thorough disconnection of the movable jaws from the stationary jaws is attained. This operation can be had in connection with either one of the draw-heads and from either the side of the car or on the upper portion thereof in accordance with the character of the car to which the improved coupling is applied.

The form of coupling described is especially strong and durable and easily applied in position in connection with a car, and will obviate the necessity of passing between two approaching cars for the purpose of coupling or arranging the draw-heads.

It is obviously apparent that many minor changes in the details of construction and arrangement of the several parts might be made without in the least departing from the nature or spirit of the invention.

Having thus described the invention, what is claimed as new is—

In a car-coupling, the combination of a draw-head having a movable and a stationary jaw therein, a shaft having a flexible connection with said movable jaw which is adapted to wind thereon and provided with a gear and an outer coupling-head, and an upper and a side gear engaging the gear on the shaft and having connections adapted to be operated from the top or side of the car, substantially as and for the purposes specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSIAH MILLER.

Witnesses:
A. L. FREEHAFER,
W. E. FREEHAFER.