

(No Model.)

2 Sheets—Sheet 1.

A. SWENSON.
CAR COUPLING.

No. 404,575.

Patented June 4, 1889.

Fig. 1.

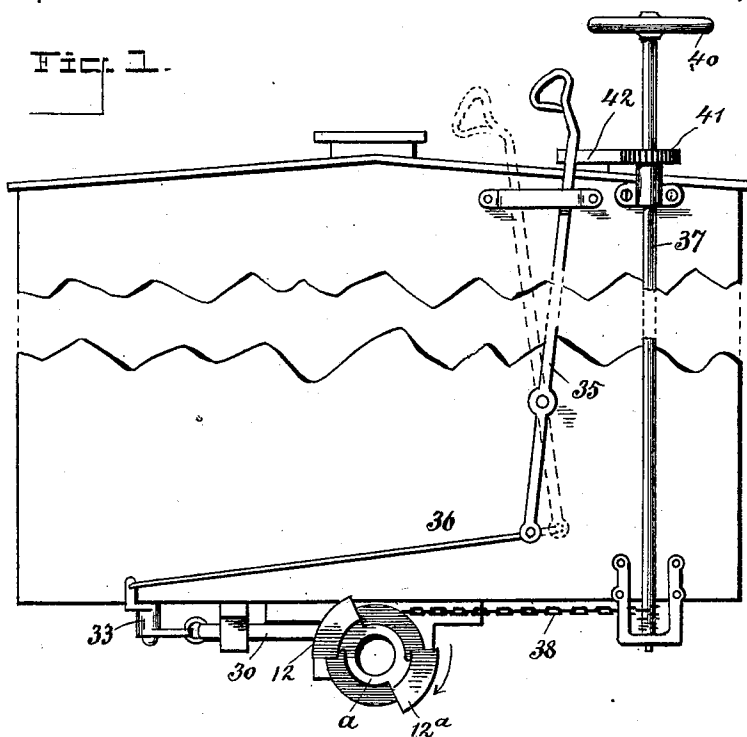
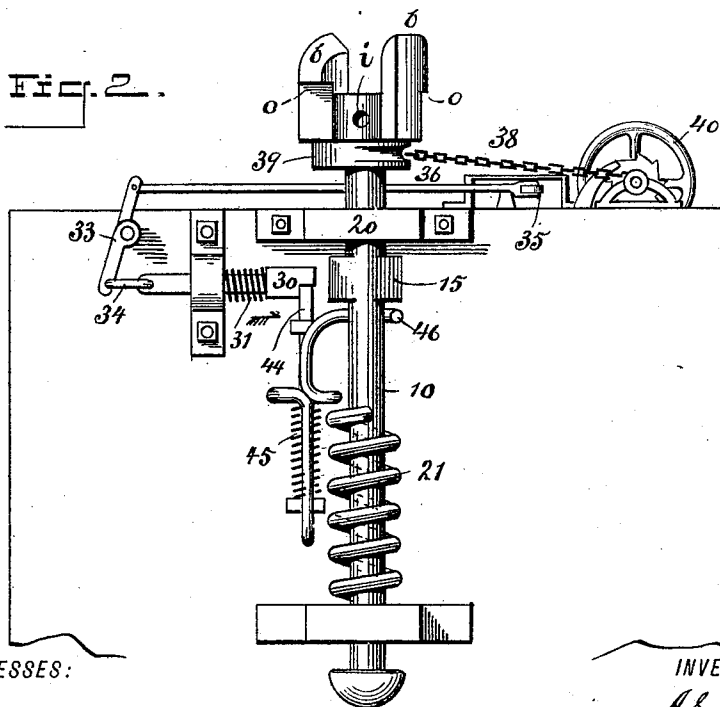


Fig. 2.



WITNESSES:

O. D. Moss
C. Bedgwick

INVENTOR.

A. Swenson
BY *Munn & Co.*

ATTORNEYS,

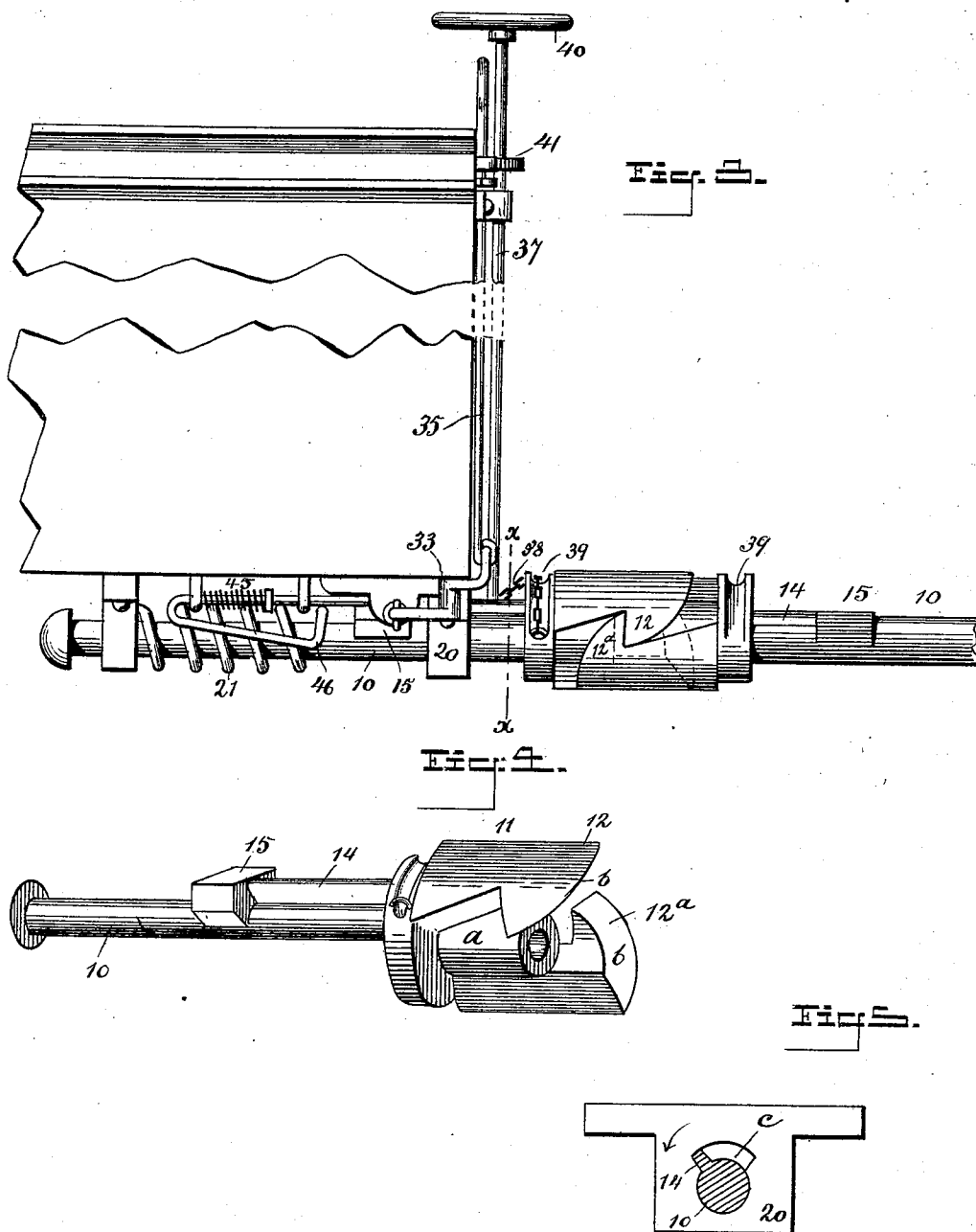
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2 Sheets—Sheet 2.

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No. 404,575.

Patented June 4, 1889.



WITNESSES:

D. D. Mott
C. Bedgwick

INVENTOR,

A. Swenson
Munn & Co.

BY

ATTORNEYS,

UNITED STATES PATENT OFFICE.

ALFRED SWENSON, OF GREENVIEW, ASSIGNOR TO PETER J. PALMQUIST,
OF MENARD, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 404,575, dated June 4, 1889.

Application filed March 12, 1889. Serial No. 302,946. (No model.)

To all whom it may concern:

Be it known that I, ALFRED SWENSON, of Greenview, in the county of Menard and State of Illinois, have invented a new and Improved Car-Coupler, of which the following is a full, clear, and exact description.

The object of my invention is to provide an automatic car-coupler whereby all danger of accident incident to the coupling of the cars together will be avoided, inasmuch as with my coupler there will be no necessity of entering the space within the car ends for the purpose of coupling.

Another object of the invention is to provide a double coupling attachment.

To the ends above named the invention consists, essentially, of a draw-head formed with two coupling-hooks having inclined faces, the draw-head being mounted so as to turn within certain defined limits, all as will be hereinafter more fully explained, and specifically 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 an end view of a portion of a car, representing the same as it appears when provided with my improved coupler. Fig. 2 is an inverted plan view of the car-body and coupler. Fig. 3 is a side view. Fig. 4 is a perspective view of one of the draw bars and heads, representing the same as they appear when removed from the car; and Fig. 5 is a cross-sectional view taken on line *xx* of Fig. 3.

In the drawings, 10 represents the draw-bar, which is made integral with a draw-head 11, said draw-head being formed with a central cylindrical section *a* and with two hooks 12 and 12^a, said hooks having inclined forward edges *b*. Upon the draw-bar there is formed a longitudinal rib 14, to the rear of which rib there is a flat-faced boss or projection 15.

In mounting the parts above described I provide the usual buffer-springs, (not shown in the drawings,) and I support the forward portion of the draw-bar 10 by means of a block 20, which is apertured to receive the bar and formed with a recess *c*, within which the

rib 14 rides, the defining walls of the recess acting as stops which prevent too great a rotation of the coupling head and bar.

To the draw-bar 10 I secure one end of a spiral spring 21, the other end of said spring being secured to any fixed portion of the car-body, the tendency of the spring being to throw the draw bar and head in the direction of the arrow shown in Fig. 5, and consequently the rib 14 will normally rest in the position in which it is shown in the figure just referred to.

At times when the coupler is coupled to a corresponding coupler carried by another car it is necessary that it should be held against any retrograde movement, and to this end I mount a bolt 30, which is normally forced forward in the direction of the arrow shown in Fig. 2 by a spring 31, the bolt bearing upon the upper face of the boss or projection 15 when the coupler is in the coupling position.

In order that the bolt 30 may be drawn back against the tension of its spring and away from the boss 15, I arrange a lever 33, that is connected to the bolt 30 by means of a link 34, and the lever 33, I connect to a lever 35 by means of a link 36, the lever 35 extending upward beyond the top of the roof of the car at a point in close proximity to a vertical shaft 37, which is connected to the draw-head by means of a chain 38, said chain being bound upon a semi-sheave 39, that is formed upon the draw-bar just to the rear of the draw-head. The shaft 37 is provided with a hand-wheel 40 and with a ratchet 41, that is engaged by a pawl 42.

In order that the bolt 30 may be held retracted after it has been moved to the position in which it is shown in Fig. 2, I provide another bolt 44, which is normally forced forward by a spring 45 to engage a recess formed in the end of the bolt 30, and to the bolt 44, I connect an arm 46, which overhangs the draw-bar 10 just to the rear of the boss 15.

In coupling, as two cars provided with my coupler approach, the several parts of the coupler are supposed to be in the position in which they are shown in Figs. 1 and 2. Then as the inclined faces *b* bear against each other the draw-head will be forced in the direction indicated by the arrow shown in Fig. 1, and

at the same time the draw-bars will be forced inward. After the bearing-faces *c* of the opposing hooks 12 and 12^a have passed each other the spring 21 will act to throw the draw-heads in a direction opposite that indicated by the arrow shown in Fig. 1, and the two draw-heads will be coupled. As the draw-heads were forced inward the bolts 44 were carried backward and away from the bolts 30, so that after the parts are coupled the springs 31 will be free to act to carry their bolts 30 forward and over the bosses 15.

To uncouple the cars, the shaft 37 is turned so as to draw upon the chain 38, the lever 35 having been first thrown to the position in which it is shown in dotted lines in Fig. 1. Then as the chains 38 are drawn upon the draw-heads will be turned in a direction opposite to that indicated by the arrow shown in Fig. 1, and the cars may be moved apart.

It will be noticed that this coupler can be operated by a single man, and that there is absolutely no danger to the train-hands during the operation of coupling.

Although I have illustrated and described this coupler in connection with a freight-car, still I desire it to be understood that it might be used in connection with a passenger-car or with any form of car.

In order that cars provided with my coupler may be coupled with cars provided with the ordinary form of pin-and-link coupler, I form the cylindrical section *a* with a central opening, of proper form and size, to receive a coup-

ling-link, the coupling-pin passing downward through an aperture *z*.

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

1. In a car-coupler, the combination, with a spring-actuated draw-bar mounted to turn in its bearings and provided with beveled hooks, of a spring-actuated bolt for engaging the draw-bar and an operating-lever connected to said bolt, substantially as described.

2. In a car-coupler, the combination, with a draw-bar formed with a rib 14 and a boss 15, of a spring connected to the draw-bar and to a fixed portion of the car, a bolt arranged to engage the boss 15, a draw-head formed with hooks 12 and 12^a, having inclined faces *b*, a chain connected at one end to the draw-bar, and a shaft to which the other end of the chain is connected, substantially as described.

3. In a car-coupler, the combination of the following elements: a draw-bar 10, formed as described, a spring 21, bolt 30, spring 31, arranged in connection with the bolt, a bolt 44, a spring 45, arranged in connection therewith, an arm 46, extending therefrom, a lever 33, connected to the bolt 30, a lever 35, a rod connecting the levers 33 and 35, a chain 38, and a shaft 37, all the parts being arranged substantially as described.

ALFRED SWENSON.

Witnesses:

H. H. MARBOLD,
P. A. BALDWIN.