

(No Model.)

W. W. SELEY.
CAR COUPLING.

No. 440,726.

Patented Nov. 18, 1890.

Fig. 1.

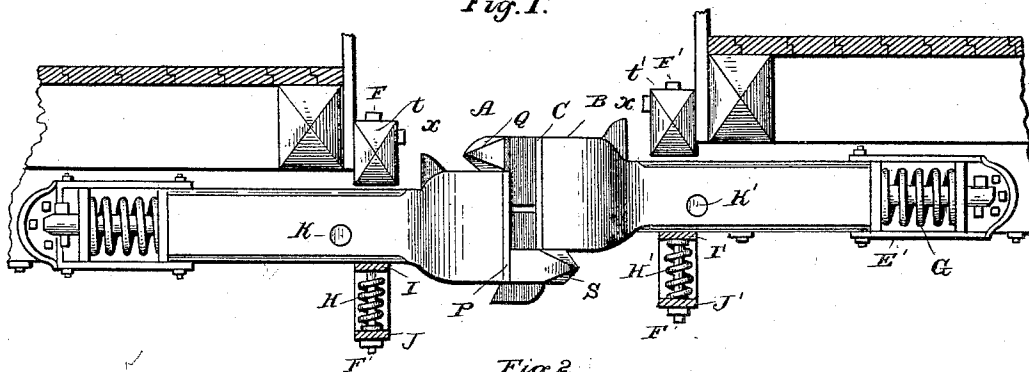


Fig. 2.

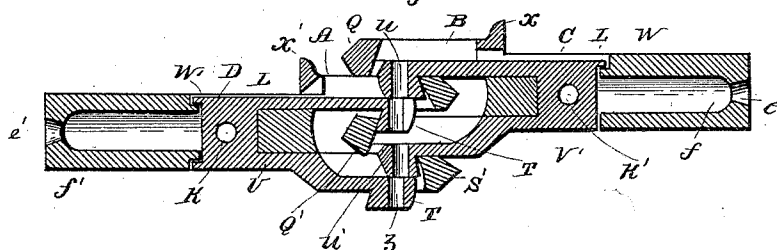


Fig. 3.

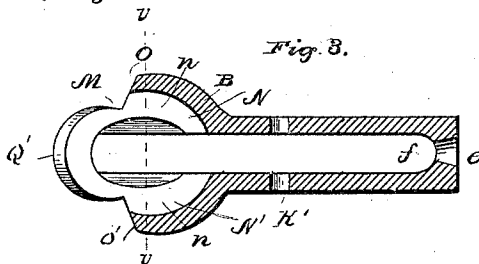


Fig. 4.

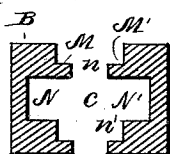


Fig. 5.

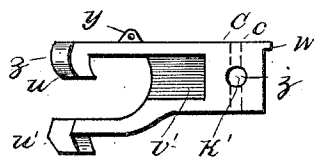


Fig. 6.

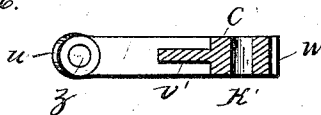
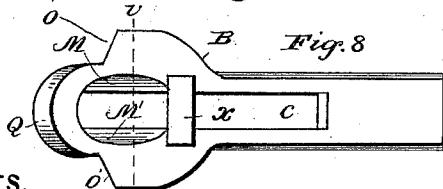


Fig. 7.



Fig. 8.



WITNESSES.

Victor J. Evans.

F. B. Keefe

INVENTOR.

William W. Seley
by C. S. Drenth
his attorney

UNITED STATES PATENT OFFICE.

WILLIAM W. SELEY, OF WACO, TEXAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 440,726, dated November 18, 1890.

Application filed May 12, 1890. Serial No. 351,546. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. SELEY, a citizen of the United States of America, residing at Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements and Combinations of Machinery—namely, the Lone Star Automatic Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same.

The object of the invention is to provide a device for automatically coupling the cars to which it is attached and which can be uncoupled without requiring the brakeman to go in between the cars, and when uncoupled the coupling will stand uncoupled till thrown back in gear.

The invention consists, essentially, of two similar or duplicate draw-heads, each having buffers, and two projecting arms, extensions, or loops rounded and beveled and adapted to work upon and between similar parts on the opposite draw-head, each draw-head being provided also with a longitudinal slot therein, and a cavity or hollowed part to receive the extensions or loops on the opposite draw-heads, and a buffer-bridge extending across the longitudinal slot of the draw-head, each of said draw-heads being hollowed out toward their backward ends and adapted to allow the ball-head of a connecting-pin to work therein, and of a gravity-key adapted to work in the longitudinal slot of the draw-head upon an adjustable transverse axis fixed in said gravity-key and working in holes in the sides of the draw-head, said gravity-key being provided with two arms or extensions with hooks or heads thereon adapted to slide over and upon and lock in the loops or arms of the opposite draw-head, said heads or arms having holes through them, whereby the ordinary link-and-pin coupling can be connected therewith, said gravity-key being also provided with an extension or loop on the upper surface thereof adapted to have an uncoupling device attached thereto; also, an extension or arm adapted to check the upward motion of the gravity-key in uncoupling; also, a flange or web between the two forwardly-ex-

tending arms of the gravity-key and reaching a part of their length and adapted to give strength to said arms, and of a double carrying-iron and two spiral springs adapted to allow the draw-head a slight upward and downward motion, said spiral springs and double carrying-iron being supported by bolts extending through the dead-wood attached to the car. The upper carrying-iron resting on the spiral springs has holes through it sufficiently large to allow it to play upon the bolts and up and down upon the spiral springs, thus allowing the draw-head resting upon it to have an upward and downward motion, so that cars of different heights can be coupled, and a shaft with crank and chain connected to the extension or loop on the upper surface of the gravity-key and adapted to uncouple or unlock the coupling and to hold it unlocked or uncoupled any desired length of time, all as hereinafter set forth.

The invention is illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal side view of the coupling coupled and fastened to the cars, with portions of the cars shown. Fig. 2 is a longitudinal vertical sectional view taken along the longitudinal center of the draw-heads when coupled or locked. Fig. 3 is a longitudinal and horizontal sectional view of the draw-head B of Figs. 1 and 2, taken along its longitudinal center. Fig. 4 is a sectional view of the draw-head B, taken upon the line *v v* of Figs. 3 and 8. Fig. 5 is a side plan view of the gravity-key C of Fig. 2. Fig. 6 is a sectional view of Fig. 5, taken on the line *z z*. Fig. 7 is a top plan view of the connecting-pin E of Fig. 1. Fig. 8 is a top plan view of the draw-head B of Fig. 1.

Referring by letter to the drawings, in which like letters of reference indicate corresponding parts in all the figures, A and B designate, respectively, the similar or duplicate draw-heads, the buffers thereon being designated, respectively, by P and O and O'.

C and D designate, respectively, the gravity-keys, similar in all respects, and working in the longitudinal slots of their respective draw-heads.

E and E' designate, respectively, similar

connecting-pins, each fastened to the car and having a ball-head working in the backward end of their respective draw-heads.

F F and F' F' designate, respectively, pins or bolts extending through the dead-wood attached to the car and adapted to support the carrying-irons and springs, one of said pins or bolts being on each side of each draw-head.

G and G' designate, respectively, spiral springs working around the connecting-pins E and E' and adapted to allow the draw-heads to play slightly backward and forward.

H and H' each designate, respectively, one of the two spiral springs placed between the two parts of the respective carrying-irons and adapted to allow the upper carrying-iron to be pressed down by the draw-head, said springs and carrying-irons thereby operating as a cushion for the draw-head to rest upon.

I and I' designate, respectively, the upper or movable carrying-irons, and J and J' designate, respectively, the lower or fixed carrying-irons.

K and K' designate, respectively, the adjustable transverse axes of the gravity-keys.

L and L' designate, respectively, pins through the gravity-keys and their adjustable axes for holding said adjustable axes in place.

M and M' designate edges of the draw-head projecting inwardly beneath the upper cavity or enlargement *n* of the longitudinal slot *c*, similar edges of the draw-head projecting inwardly beneath the lower and similar cavity or enlargement *n'* of the longitudinal slot *c'*.

N and N' designate a cavity or enlargement of the longitudinal slot *c* to allow the loops, arms, or extensions of the opposite draw-head to work therein.

O and O' designate, respectively, buffers on the sides of the draw-head B, one of the buffers on the opposite draw-head being designated by P.

Q and Q' designate, respectively, the projecting rounded and beveled arms, loops, or extensions of the draw-head B, and S and S' designate, respectively, the similar projecting rounded and beveled arms, loops, or extensions of the draw-head A.

T and T' designate, respectively, the heads or hooks on the arms or extensions of the gravity-key D, and U and U' designate similar heads or hooks on the arms or extensions of the gravity-key C, each of which heads or hooks has a hole through it for the insertion of the pin of an ordinary link-and-pin coupling, and all of them are adapted to slide over and upon and then fall of their own weight into the loops or extensions of the opposite draw-head. Each of said heads or hooks are also so made that the point of contact or the draft is upon that part of the hook or head

nearest its shaft, arm, or extension of the gravity-key.

V and V' designate, respectively, the flanges or webs between the shafts, arms, or extensions of the gravity-keys and adapted to give strength thereto.

W and W' designate, respectively, similar extensions or arms of the gravity-keys C and D and adapted to strike upon the projecting edge of the corresponding draw-heads, and thereby prevent their respective gravity-keys from being raised too high in uncoupling the cars.

X and X' designate, respectively, the buffer-bridges on the draw-heads B and A, said buffer-bridges being adapted to strike as a buffer against the dead-wood *t* and *t'*, respectively, and thereby prevent the draw-heads being driven back under the car too far, and said buffer-bridges, extending as they do across the longitudinal slots of their respective draw-heads, prevent the gravity-keys working in said longitudinal slots being raised too high in uncoupling or unlocking the coupling.

Y designates the extension or loop on the upper surface of the gravity-key, a similar one being upon each gravity-key, and to which is connected a chain and crank on a shaft adapted to raise the gravity-key and thereby unlock or uncouple the coupling, said chain, crank, and shaft (not shown in the drawings) being so adapted and adjusted so that in raising the gravity-keys to unlock the coupling the crank passes over and beyond the vertical or highest point in the arc it describes, and there rests against the end of the car, thereby holding the gravity-key up, and consequently the coupling is held uncoupled any desired length of time or until the coupling is thrown back in gear.

Z designates the hole through one of the heads or hooks on the arms or extensions of the gravity-keys, and in which the ordinary pin of the link-and-pin coupling can be inserted, similar holes being through each of the other heads or hooks of the gravity-keys.

The letter *c* designates the longitudinal slot in the draw-head B, a similar slot being in the draw-head A, wherein works the gravity-key C, hereinbefore described. Each of said longitudinal slots is enlarged toward its forward end, as indicated by *n'* and *n*, to allow for the play of the head of the gravity-key of the opposite draw-head. They are also greatly enlarged, as indicated at N and N', to receive and allow to work therein the two projecting arms, loops, or extensions of the opposite draw-head.

The letters *e* and *e'* designate, respectively, the holes in the ends of their respective draw-heads wherein work the connecting-pins E and E'.

The letters *f* and *f'* designate portions of the draw-heads hollowed out and adapted to allow the ball-heads of the connecting-pins E

and E' to work therein, and so as to allow the draw-heads to have a slight rotary motion thereon.

From the foregoing description, taken in connection with the drawings, the operations of my invention will be readily understood, but may be briefly stated as follows: As the draw-heads are forced together their rounded and beveled arms, loops, or extensions are projected upon and between similar parts on the opposite draw-head, forcing upward and passing under the heads or hooks on the gravity-keys, which heads or hooks then fall of their own weight into the projecting arms, loops, or extensions of the opposite draw-heads, thereby coupling, locking, or fastening the two draw-heads together. To uncouple or unlock or unfasten the coupling, the brakeman standing at the side of or on the top of the car turns the shaft or crank and chain attached to the gravity-keys till said gravity-keys are raised sufficiently high to release the loops on the opposite draw-head, thereby uncoupling, releasing, or unlocking the coupling, and if it is desired to leave the coupling uncoupled said shaft and crank are turned till the crank passes beyond the vertical or highest point in the arc which it describes and rests against the end of the car, thereby holding, by means of its connection to the gravity-keys, said gravity-keys up or out of position or gear.

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

1. In a car-coupling, the combination of duplicate draw-heads, each having a longitudinal slot therein and each provided with buffers and with two arms, loops, or extensions adapted to work upon and between their counterparts on the opposite draw-head, and with a buffer-bridge extending across the longitudinal slot therein, and a gravity-key adapted to work in the longitudinal slot in the draw-head and having two extensions or arms with hooks or heads thereon adapted to work in the loops or extensions of the opposite draw-head, and a carrying-iron resting upon spiral springs, and a connecting-pin with rounded or ball head adapted to work in the hollowed end of the draw-head, and two spiral springs adapted to support a carrying-iron, all substantially as described.

2. In a car-coupling, the combination of two similar draw-heads, each provided with buffers and two projecting rounded and beveled arms, loops, or extensions, and a buffer-bridge, each of said draw-heads hollowed out toward its forward portion and adapted to receive the projecting arms or loops of the opposite draw-head and having a longitudinal slot therein, and a gravity-key having a transverse axis fixed therein and working in holes in the sides of the draw-head, said gravity-key being provided with two extensions or arms, with hooks or heads thereon adapted to lock in the arms or loops of the opposite draw-

head, and with a projection or loop on the upper surface thereof adapted to be connected to an uncoupling device, and provided also with a projection at its backward end adapted to strike against the edge of the draw-head and thereby prevent the gravity-key being raised too high, and a connecting-pin with ball or rounded head adapted to work in the hollowed end of the draw-head and connecting it with the car, and a carrying-iron resting on spiral springs, substantially as described.

3. In a car-coupling, the combination of two similar draw-heads, each provided with buffers and a longitudinal slot therein, and a buffer-bridge and two rounded beveled and projecting loops, and a connecting-pin with rounded or ball head, and a double carrying-iron, and two spiral springs adapted to support the upper carrying-iron, and a gravity-key adapted to work in the longitudinal slot in the draw-head, substantially as described and specified.

4. In a car-coupling, the combination of a draw-head having a longitudinal slot therein, and buffers, and buffer-bridge across said longitudinal slot, and two extensions or loops adapted to work on and upon and between similar parts on the counter draw-head, said draw-head being hollowed out and adapted to allow the loops of the opposite draw-head to work therein, and a connecting-pin with round head, and a double carrying-iron, the upper one resting on spiral springs, and two spiral springs adapted to support the upper carrying-iron, and a gravity-key adapted to work in the longitudinal slot in the draw-head and having two forwardly-extending arms with hooks or heads and adapted to lock in the loops of the opposite draw-head, all substantially as described.

5. In a car-coupling, the combination of the draw-heads A and B and the gravity-keys C and D, and the connecting-pins E and E', and the double carrying-irons I and J and I' and J', and the spiral springs H and H' and their duplicates on the opposite sides of their respective draw-heads, all substantially as described and specified.

6. In a car-coupling, the combination of two similar draw-heads, each having a longitudinal slot therein, and buffers and a buffer-bridge, and two rounded and beveled loops or extensions adapted to work between and upon similar loops or extensions by the opposite draw-head and in the hollowed end thereof, each of said draw-heads being hollowed out so as to allow the loops of the opposite draw-head to work therein, and two gravity-keys, each working in the longitudinal slots of their respective draw-heads and having two extending arms or projections with hooks or heads thereon adapted to slide over and lock in the loops of the draw-head opposite, and a projection on the upper surface of each of said gravity-keys adapted to be attached

to an uncoupling device, an extension or arm adapted to strike against the edge of the draw-head when the front portion of the key is raised, and an adjustable transverse axis
5 fixed in said gravity-key by a vertical pin through the same and working in holes in the sides of the draw-head, and a double carrying-iron, the upper one thereof adapted to rest on two spiral springs supported by bolts
10 extending through the dead-wood attached to the car and the lower carrying-iron, and a

connecting-pin with rounded or ball head adapted to work in the hollowed end of the draw-head and connect the draw-head to the car, all substantially as described, illustrated, 15 and set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM W. SELEY.

Witnesses.

B. D. OWEN,

DANIEL WISE.