(No Model.) 2 Sheets—Sheet 1.

W. N. SEWELL.

CAR COUPLING.

No. 311,535. Patented Feb. 3, 1885.

Fig. 1.

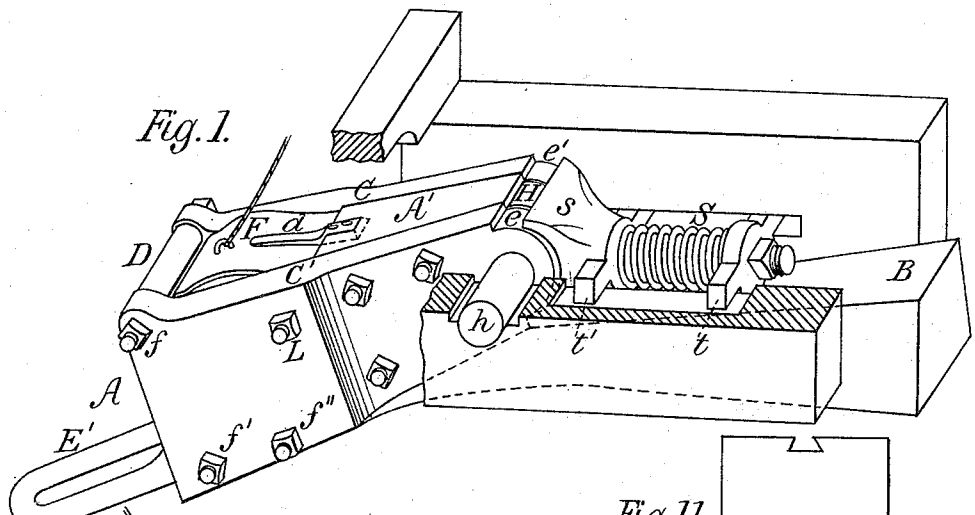


Fig. 11.

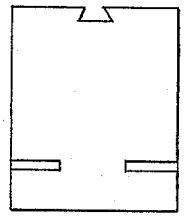


Fig. 2.

Fig. 10.

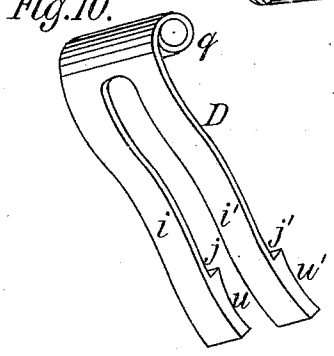
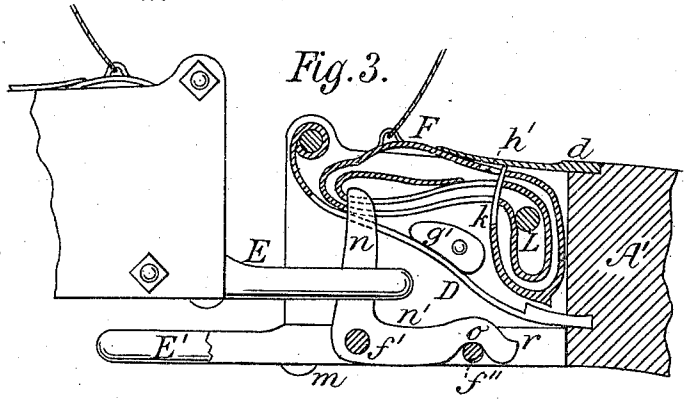


Fig. 3.



Witnesses:

A. E. Gaines

C. C. Yates

Inventor:

William N. Sewell

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his Atty.

(No Model.) 2 Sheets—Sheet 2.

W. N. SEWELL.

CAR COUPLING.

No. 311,535. Patented Feb. 3, 1885.

Fig. 4.

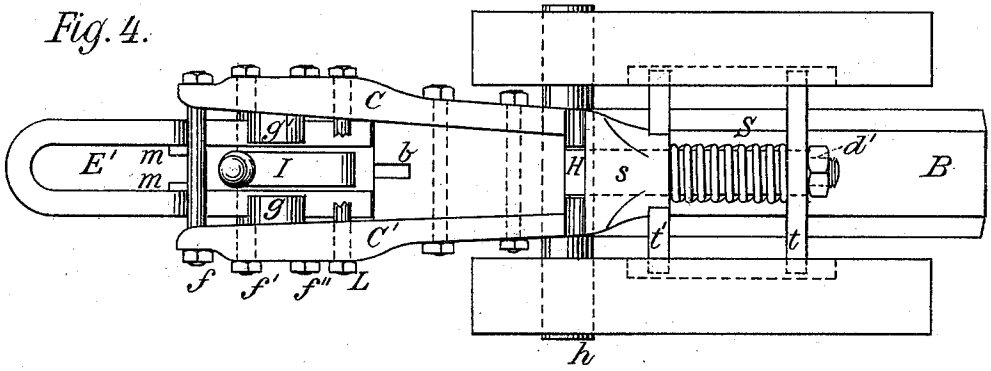


Fig. 5.

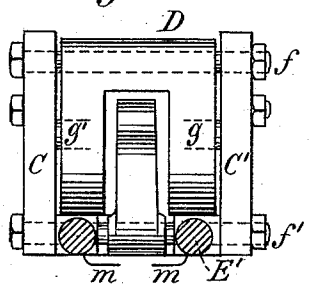


Fig. 7.

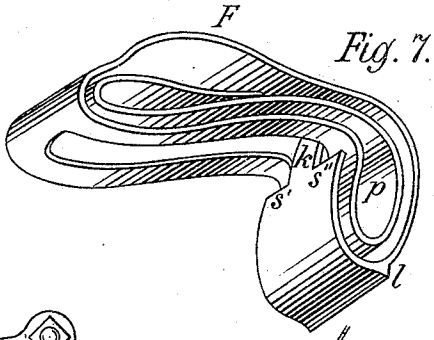


Fig. 8.

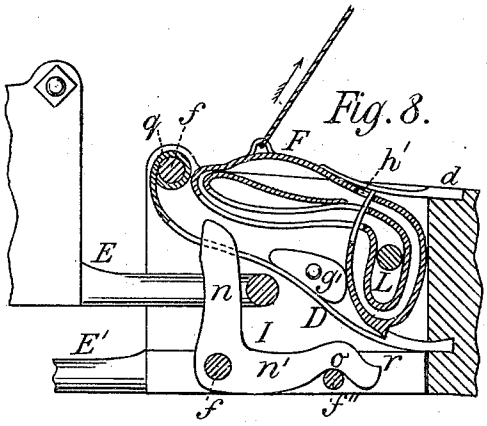


Fig. 9.

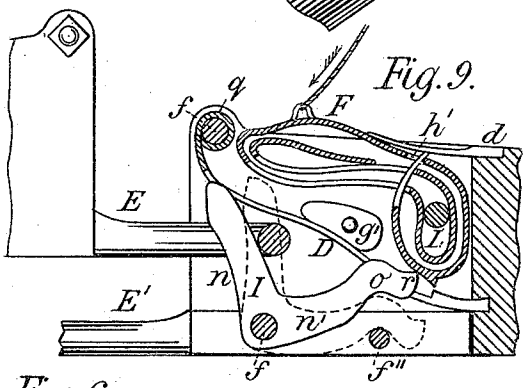
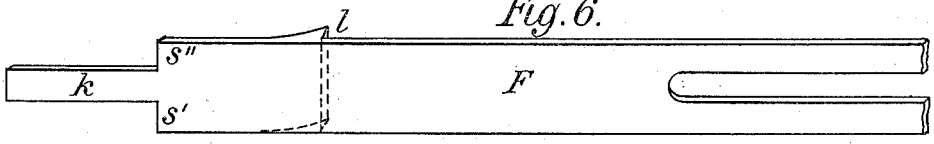


Fig. 6.



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Inventor:

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UNITED STATES PATENT OFFICE.

WILLIAM NAPOLEON SEWELL, OF HEDGES, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 311,535, dated February 3, 1885.

Application filed August 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM NAPOLEON SEWELL, a citizen of the United States, residing at Hedges, in the county of Clark and State of Kentucky, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to a pivoted car-coupler with stationary link, and in which the interior of the draw-head is traversed by a throat-plate, dividing it in two inclined compartments, the lower one containing the link with coupling-pin between, the latter turning on a pivot in radial direction therein, and the upper space is the lodgment of a pin-latch, conducive in the performance of automatically coupling the cars and securing the coupling-pin in its position, and releases the same for uncoupling by manipulation of mechanical appliances. The draw-head is at its rear part loaded with a projecting shank for counter-balance and maintaining an inclined position of the same, to assist, in connection with the aforesaid throat-plate, in avoiding damaging concussions and accomplishing a positive coupling at different angles of elevation of the cars.

The several matters of improvement will be fully hereinafter set forth, and specified in the claims.

Referring to the drawings, Figure 1 represents in perspective view the draw-head in position for coupling cars and the timber to which the same is connected, the latter partially in section. Fig. 2 is a sectional side view of the draw-head, showing its interior arrangements with coupling-pin and link in position and in the act of automatically coupling of the cars. Fig. 3 is a similar view, and in relation to the foregoing one, showing the cars coupled and the position of concerned parts arranged for the purpose. Fig. 4 is a top view of the draw-head, the throat-plate removed. Fig. 5 is a front end view exhibiting the coupling-pin and throat-plate in connection with the link, the same but in section. Fig. 6 represents a portion of the flat plate of the pin-latch, showing slotted parts at intervals and flanged part on one end. Fig. 7 shows the pin-latch folded together and in working condition. Figs. 8 and 9 relate to the active situation of the pin-latch. The former shows the same in locked position with the throat-plate. The latter view relates to the coupling-pin disengaging the pin-latch from the throat-plate, and the link in the act of uncoupling. Fig. 10 is a perspective view of the throat-plate in detail as constructed; and Fig. 11 represents the front end of the base of the draw-head proper, also in detail.

The draw-head A of the coupler consists of a solid base, A′, provided with a series of bolt-holes for securing the side plates, C C′, the rear upper end of the base having a semicircle recess, *a*, for receiving the similar-shaped end of the draft-bar H, while its lower part terminates into a downward-inclined projecting shank, B, for the purpose to give weight and act as counter-balance of the draw-head and adjusting the inclined positions of the same in coupling with cars at different elevation, and throwing off in tangible directions the bearing strain of encountering concussions.

Near the bottom, on the front end of the base A′, are recesses *c c′*, for securing the end portion of the throat-plate, while in center of the top to a certain extent is a dovetailed notch, *b*, into which a guard-spring, *d*, is fitted for keeping the pin-latch in position.

The side plates, C C′, are fitted to the base of the draw-head on both sides, and secured in their position by screw-bolts passing crosswise through the same. Their rear ends are slightly tapered, ending in projecting lugs *e e′*, the same having corresponding center holes for the passage of a bolt, *h*, connecting the base of the draw-head with the inserted draft-bar H, the front portion of the side plates projecting from the base A′ having at their upper end bolt-holes for a passing screw-bolt, *f*, for fastening and to secure the head of the joining throat-plate D in the intervened space. The said side plates, C C′, are mounted on their inner side and about centrally located with movable braces *g g′*, for keeping the adjusted throat-plate in position when guiding the entering link of a car for coupling and preventing the flanged part *l* of the pin-latch from slipping too far beyond the shoulders *j j′* during the act of uncoupling.

The coupling-link E′ is inserted between

the side plates, C C′, and held in position by screw-bolts *f′ f″*, level with the bottom of the throat of the draw-head A. The front part of the same is rounded and projecting from the throat, and at this point the inner sides are provided underneath with equidistant projecting studs *m m*, for supporting the coupling-arm *n* when the same is forced down in direction of the departing link in uncoupling. The rear end of the coupling-link is open, and the two ends resting against the base A′ of the draw-head below the recesses *c c′*.

The coupling-pin I consists of two arms, *n n′*. The same are in right angles each to the other, and pivoted at their junction by bolt *f′* in the space between the coupling-link E′, turning there freely in a radial direction, and rests, according to the position in coupling or uncoupling, with its front or coupling arm, *n*, on the supporting-studs *m m* beneath the link, or with the rear arm, *n′*, on the screw-bolt *f″*, so that always one arm is raised, while the other is down. The said arm *n′* is recessed at *o*, near its end, and bent to furnish leverage for a tappet, *r*, which is for the purpose of dislodging the flanged part *l* of the pin-latch by lifting or starting the same out of the interlocking shoulders *j j′* of the throat-plate during the manipulation of uncoupling.

D is the throat-plate, made of suitable metal and thickness, and possesses elasticity to a certain degree. The top part is bent in shape of a cylindrical head, *q*, through which the bolt *f* of the draw-head passes for securing the same in its resting-place between the side plates, C C′. Below this point the throat-plate is slotted throughout, forming two prongs, *i i*, each provided with abutments *u u′* at their ends, the same rising from the surface of the metal, forming shoulders *j j′*, for the purpose of engaging the flanged part *l* of the pin-latch, and holding the same in that position until dislodged by the action of the coupling-pin, and the rear end of these abutments is securely fitted into the recesses *c c′* at the lower part of the base A′ of the draw-head, by which arrangement the throat-plate passes underneath the braces *g g′* and traverses the space of the said draw-head A, dividing the interior of the same into two triangular compartments—the upper one for the insertion of the pin-latch, the lower for the coupling apparatus—both working in connection and through the agency of the features of the throat-plate.

The pin-latch F consists of a flat strip of some suitable metal of uniform width and thickness, and has slotted spaces at intervals. Near one end the strip is recessed on both sides, forming shoulders *s′ s″*, from the base of which projects a tongue, *k*, and the portion below the base is provided with a flange, *l*, running across the width of the strip. The same is circumfolded and bent so that the upper and lower folds inclose the others, and the slotted spaces are coinciding and correspond each with the other, through which the coupling-pin in its action and the tongue *k* pass, the latter resting with its extreme end against the guard-spring *d*. The front portion of the pin-latch rests on the throat-plate D between the side plates, C C′, and is kept in position by the said guard-spring, which presses down on it, and by the bolt L, which passes through the opening *p* in the lower elongated part of the same, the flange *l* being in range of the abutments at the end of the throat-plate beneath. A chain or rope is attached with one end to the top of a car and the other to the top part of the pin-latch, which is exposed through the open space between the side plates, C C′, and base of the throat, for manipulating the pin-latch in the act of uncoupling.

The draft-bar H has a semicircular head, fitting in the recess *a* at the rear part of the base A′, pivoted by bolt *h* to lugs *e e′* of the side plates, C C′, and is mounted with a friction-collar, *s*, and buffer-spring S, and the same is held in position by the guide-blocks *t t′*, resting in slotted supports in the draft-timbers underneath the car. The nut H′ on the threaded end of the draft-bar prevents the same from getting apart or pulling out of the rear guide-block and relieves the coupling-pin from the jerking strain when the cars are in motion, and the rear guide-block, *t*, is assisted in its relief by the connecting-bolt *h*, which slides in its support equal to the recoiling distance of the buffer-spring.

Referring to Figs. 2 and 3 of the drawings, the coupling of the cars is automatically accomplished by entering link E into the draw-head, thrusting with its front end the arm *n′* of the coupling-pin I down to its resting-place, and causing hereby the coupling-arm *n* to rise into the space between the said link and the slotted part of the throat-plate D, and is locked by the front part of the pin-latch F, which arrests and holds the arm in position. The disengaged link E′ runs unobstructed underneath the engaged draw-head, the contact in coupling causing both draw-heads to rise in an elevated position, and the perambulating motions of the same are counterbalanced by the shank B and pivoted draft-bar H.

The manipulation of uncoupling cars, as shown in Figs. 8 and 9, is performed from the top of the cars, or by stepping between the same, simply lifting the head or front part of the pin-latch by the chain or rope attached to it for that purpose, which action causes the same to turn with its elongated rear part on the bolt L, and the flange *l* drops into the shoulders *j j′* of the throat-plate D. The extreme end of the tongue *k* rests securely on the guard-spring *d* through an aperture, *h′*, in the pin-latch, close underneath the same, and the portion below the shoulders *s′ s″* bulges against the braces *g g′* of the side plates, interlocking the flange *l* with the shoulders *j j′* of the throat-plate, which keeps the pin-latch F in elevated position, causing the liberating of the coupling-arm *n*. The

same is pulled down by the link E of the departing car, which movement raises the arm n' from its resting-place on bolt f'', and the tappet r strikes against the bulged part, dislodging the flange l, and the pin-latch leaps back in its normal position, forced by the pressure of the guard-spring d, and the said arm n' passes in a radial direction through the slotted space, and stands vertically resting against the front part of the pin-latch, with its coupling-arm n resting on the studs m m, ready for coupling again.

I am aware that prior to my invention car-couplers have been made and attached to cars by means of a draw-bar, buffer-spring, and guide-blocks. I therefore do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In an apparatus for car-coupling, the solid base A′ of the draw-head, with a semicircular recess, a, for the insertion of the draft-bar at its rear end, the same continuing in an inclined projecting shank, B, as shown, the front end of the base provided with a dovetailed notch, b, and recesses c c', substantially as described, and for the purpose specified.

2. In combination with the base A′, in an apparatus for car-coupling, the side plates, C C′, secured to the said base, forming in their projecting front part the draw-head A, and said side plates having at their rear end projecting lugs e e', with corresponding center holes, their front ends provided with a passing screw-bolt, f, and mounted with braces g g' and bolt L, substantially as described, and for the purpose specified.

3. In combination with the draw-head A of an apparatus for coupling cars, with projecting side plates, C C′, the connected coupling-link E′, the same having open rear ends and provided with studs m m and coupling-pin I, substantially as described, and for the purpose specified.

4. In combination with the draw-head A, side plates, C C′, and coupling-link E′ of a car-coupling, the coupling-pin I, pivoted by bolt f' in the space between the said coupling-link, and consisting of two arms, n n', the same being in right angles each to the other, one arm provided with a tappet, r, and recess o underneath, substantially as described, and for the purpose specified.

5. In combination with the draw-head A of a car-coupling, the side plates, C C′, of the same, the coupling-pin I, and coupling-link E′, the throat-plate D, traversing the interior space of the draw-head and connected to the screw-bolt f and recesses c c' of the same, said throat-plate being partially slotted, forming prongs i i, provided with abutments u u', the same rising from the surface of the metal and having shoulders j j', substantially as shown and described, and for the purpose specified.

6. In combination with the draw-head of a car-coupling, the construction of the pin-latch F, made of a strip of suitable metal, and uniform in dimensions, the same slotted at intervals and circumfolded and bent as illustrated, having a tongue, k, at one end, and provided with a flange, l, substantially as described, and for the purpose specified.

7. In combination with the base A′ of the draw-head and side plates, C C′, coupling-link E′, coupling-pin I, throat-plate D, pin-latch F, and pivoted draft-bar H, the same mounted with friction-collar s, all combined, connected, and constructed as described, and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM NAPOLEON SEWELL.

Witnesses:
FRED BROADHURST,
JOSEPH RAMSEY.