

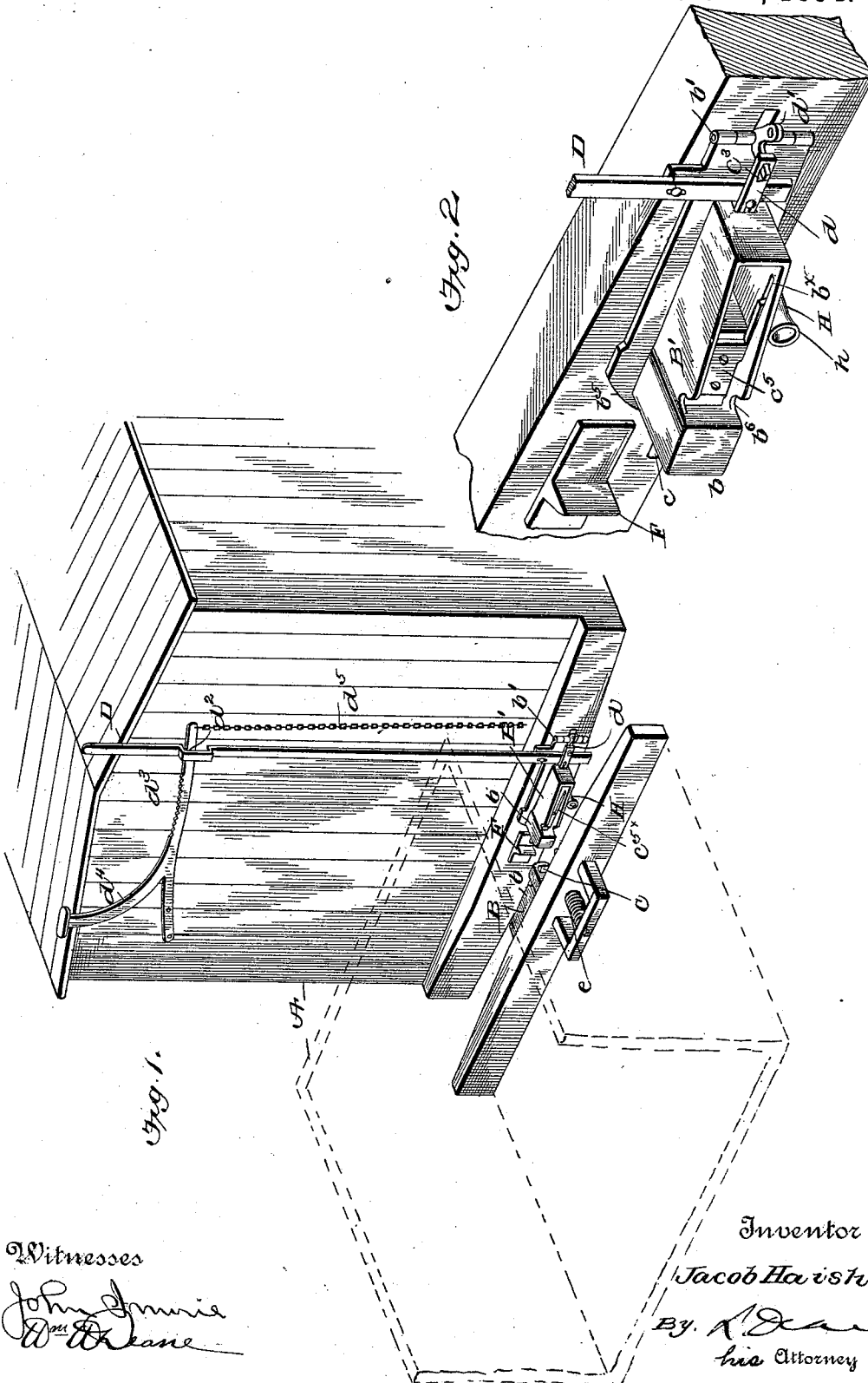
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4 Sheets—Sheet 1.

J. HAISH.
CAR COUPLING.

No. 514,826.

Patented Feb. 13, 1894.



Witnesses
John J. Murie
W. D. Kane

Inventor
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By A. D. Kane
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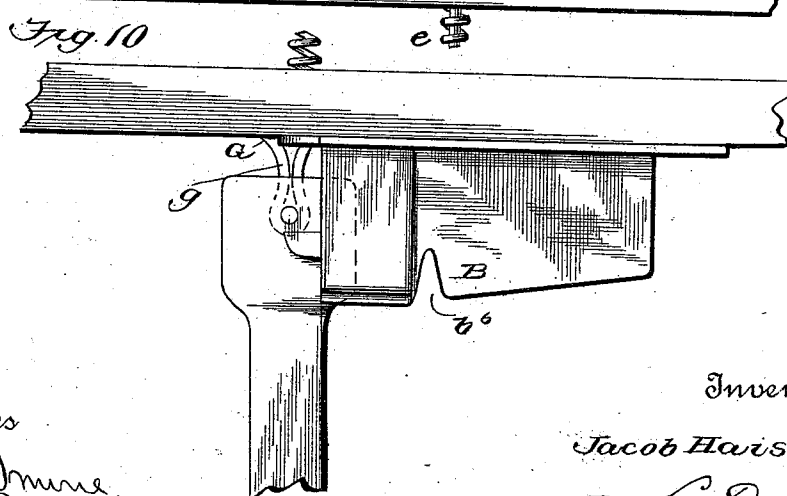
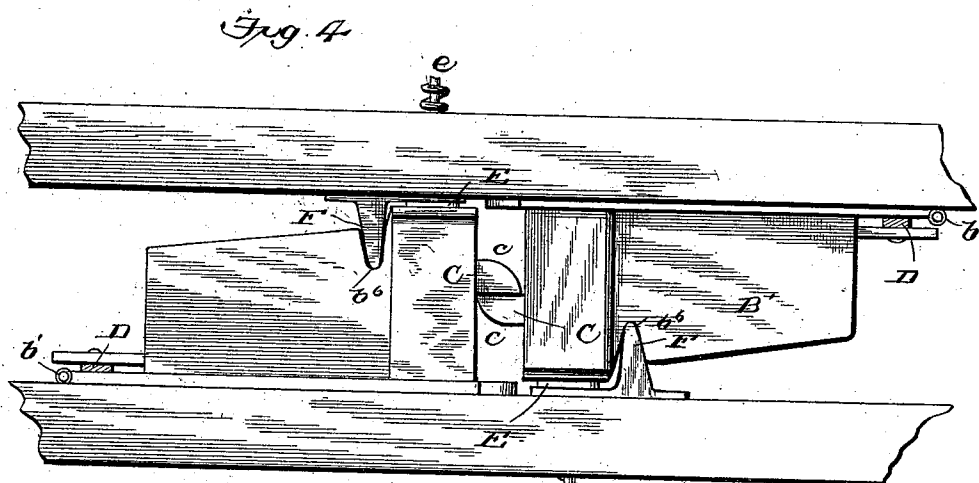
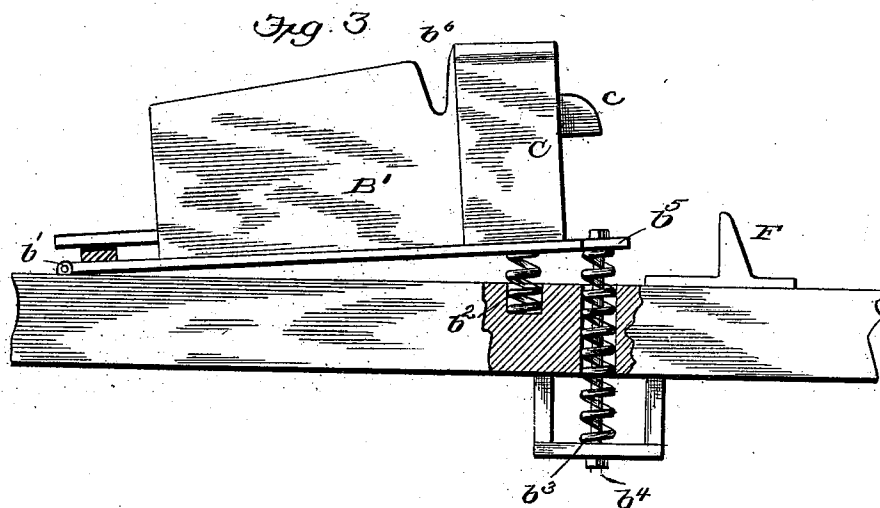
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4 Sheets—Sheet 2.

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CAR COUPLING.

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Witnesses

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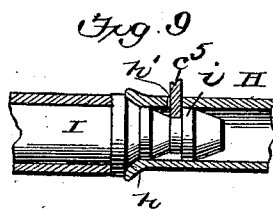
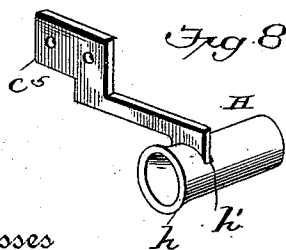
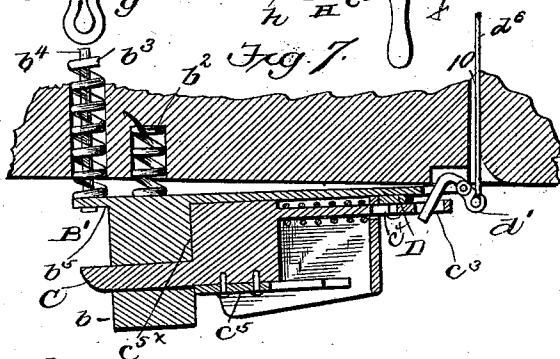
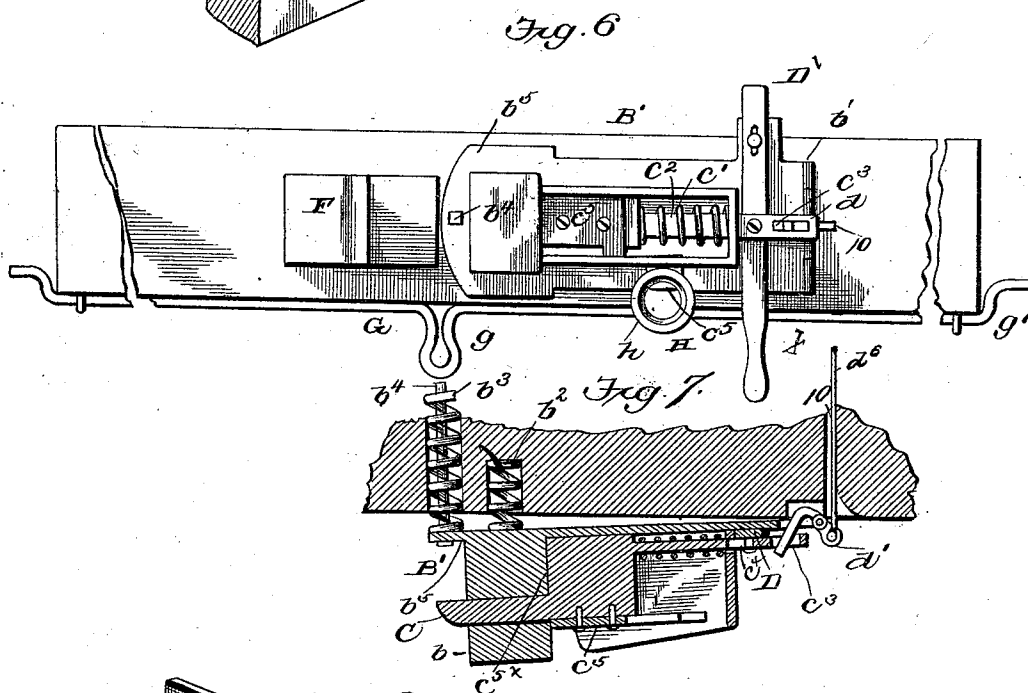
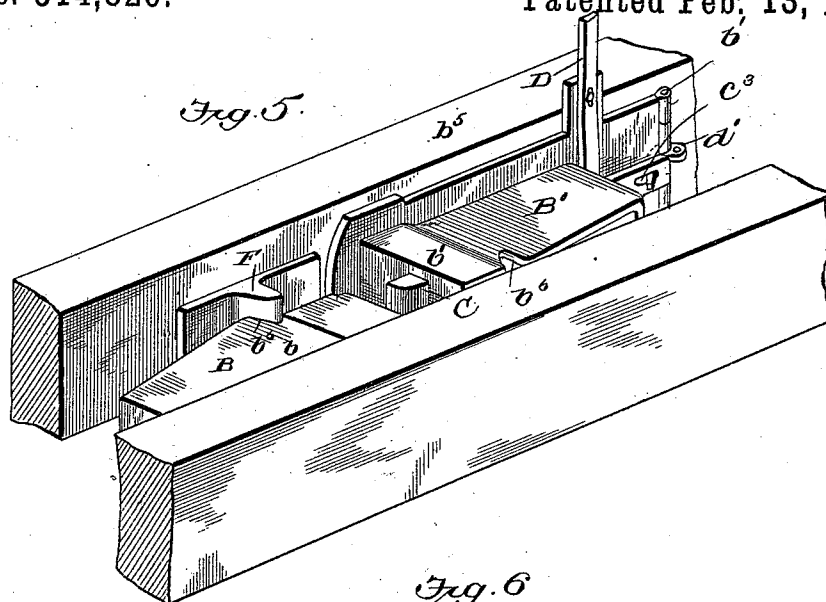
(No Model.)

4 Sheets—Sheet 3.

J. HAISH.
CAR COUPLING.

No. 514,826.

Patented Feb. 13, 1894.



Witnesses

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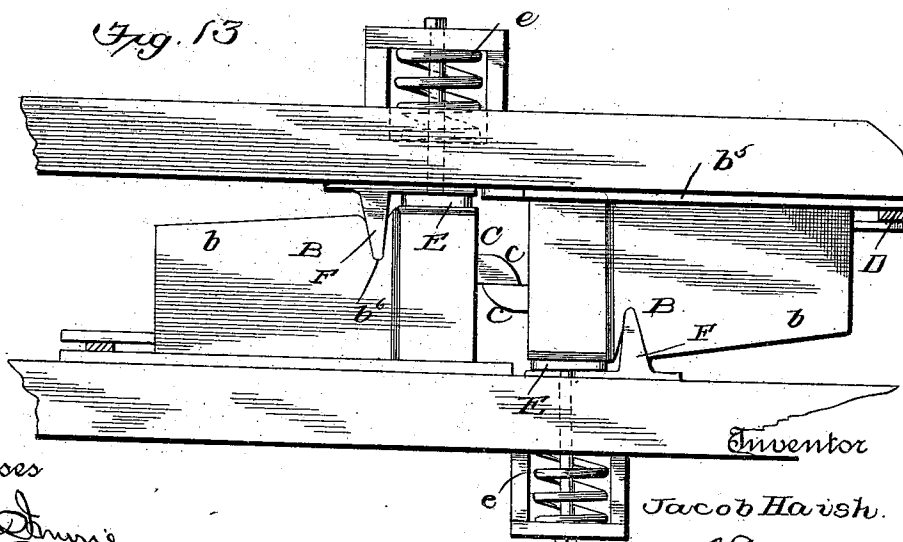
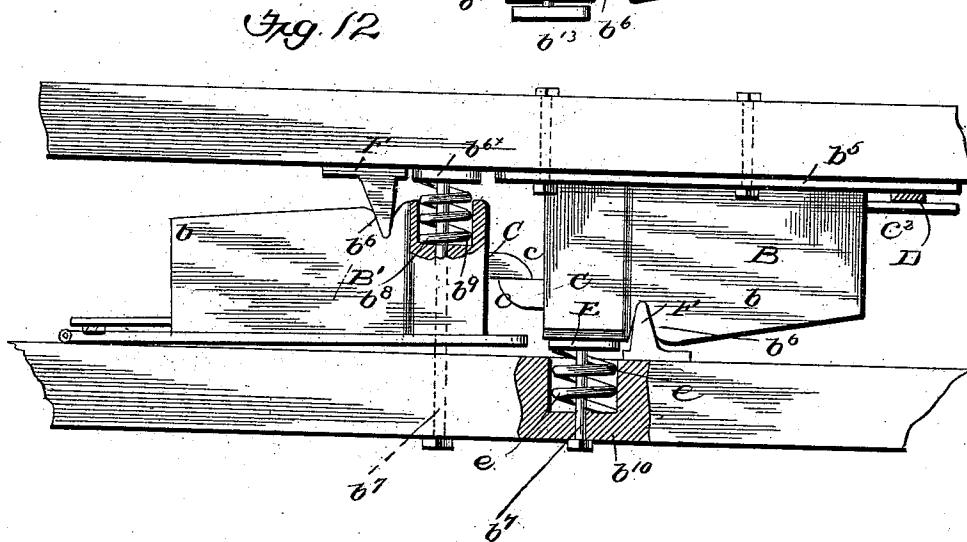
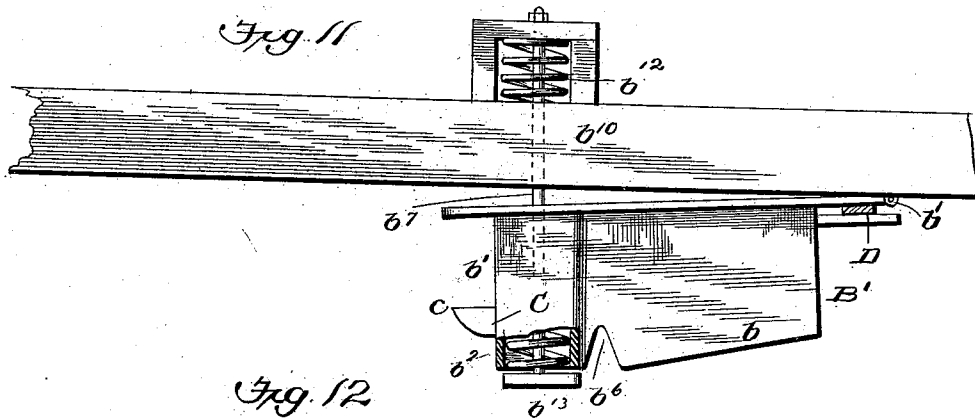
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4 Sheets—Sheet 4.

J. HAISH.
CAR COUPLING.

No. 514,826.

Patented Feb. 13, 1894.



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UNITED STATES PATENT OFFICE.

JACOB HAISH, OF DE KALB, ILLINOIS, ASSIGNOR TO THE HAISH MANUFACTURING COMPANY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 514,826, dated February 13, 1894.

Application filed April 15, 1893. Serial No. 470,509. (No model.)

To all whom it may concern:

Be it known that I, JACOB HAISH, a citizen of the United States, residing at De Kalb, in the county of De Kalb and State of Illinois, have invented certain new and useful Improvements in Car-Couplers; 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.

Figure 1, is a perspective view of this invention showing the act of coupling ready to be made. Fig. 2, is a perspective view of one part of the coupler. Fig. 3, is a top plan view of the other part of the coupler. Fig. 4, is a top plan view of the couplers when the act of coupling has been finished. Fig. 5, is a detail in perspective view showing how the latch connection may be made at different heights, also, generally indicating different and vertical positions each part of the coupler assumes as in the oscillation of the cars in rounding a curve. Fig. 6, is a front view showing a looped rod secured to the coupler and adapted to be turned so as to bring the loop in horizontal position for the engagement with an ordinary coupling link. Fig. 7, is a longitudinal central section through one of the couplers. Fig. 8, is a perspective view in detail showing the means for making the air brake connection. Fig. 9, is a vertical sectional view of the same and the end of the air pipe as when secured in position. Fig. 10, is a detail plan view showing the position of coupler when used for the engagement with an ordinary coupling link. Fig. 11, is a detail sectional view of one of the couplers, showing a spring bumper in the end thereof. Figs. 12 and 13, are detail plan views partly in section showing a slightly modified construction.

This invention belongs to that class of devices called rail road car couplers and the points of novelty in the same more especially considered new and valuable are the placing of the latch or coupler housing parallel, or substantially so with the front of the car; and in having the latches or coupler parts slide parallel or nearly parallel with the front of the car; and in so constructing and applying each coupler that when it comes in contact, as in use, with its opposite coupler, each will

have free up and down movement, and also on curves each will readily move on the other; and in providing with the coupler means for holding the air brake pipe whereby the connection of the air brake pipe can be automatically made or broken by the sliding of the coupler jaw; and in the structure of the several parts of the coupler whereby at the least expense of mechanism the operation is sure and as near as possible perfect and finally in the construction of the several parts, and the combination of each with the other, and in the device as a whole, all as will be herein after more fully described as well as pointed out in the claims.

This device is more especially adapted for use on the box car and also on the platform car, but can be used on any railroad car.

In the accompanying drawings A, denotes two cars, one in full lines and one indicated in outline; to the front end of the outlined car is horizontally fixed the coupler B, while the coupler B', except in the hinging of the box and the accessories belonging thereto being like unto it, is horizontally attached to the abutting or adjacent end of the car in front or at the rear.

The coupler B, see Fig. 13 consists of a box *b*, in which is placed the coupling jaw or latch C, adapted to slide horizontally across or generally parallel with the front of the car, the head *c*, of which latch under the thrust of spring *c'*, about its shank *c*², (see Figs. 6 and 7,) normally projects beyond the inner end of the box sufficiently far to engage, when the cars are coupled, with the corresponding latch head *c*, of the coupler attached to the next car. In the act of coupling the two cars these latch heads will by virtue of the inclined or rounded end or face of each, slide by each other and thus the one head will come vertically inside of the other and make the connection between the two cars.

The coupler B', differs from the coupler B, in that it is hinged at one end *b'*, to the front of the car. At the other end a spring *b*², is let into a seat in the head, the other end of the spring being properly secured in the front of the car; (see Figs. 3 and 6) the object of this spring is to keep the box in its proper position in the running of the train and to act also as a bumper. There is also a supple-

mentary spring b^3 , properly secured behind the front beam of the car, and about the rod b^4 , which passes through the inner end of the box plate b^5 , which spring acts to give an ease off or resilience to the box at this point when the cars are in motion.

When it is desired to uncouple the cars the act can be performed by means of the lever D, pivoted to the face plate b^5 , by which the coupler is attached to the car, its handle extending above the top of the box car and in position for the train hand to easily grasp, or in a platform car by the lever D', attached like as lever D, (see Fig. 6) and which is easily operated from the ground; or by the rod d , which is jointed at one end to the angle piece d' , pivoted in the outer end of the face plate b^5 , (see Figs. 5, 6 and 7) and thence extends through slot 10 in the beam forward to the cab of the locomotive; the other end of the angle piece plays in a slot c^3 , in the end of the shank of the latch C, so that it can freely move the latch when the rod is operated; of course if desired, the wire or rod d^6 , and the angle piece d' may be adapted that the wire will run by the side of the car. When the lever D, extends to the top of the car provision may be made for holding it in a fixed position by the spring d^4 , attached at one end to the car and thence extending through the slot d^2 , in the handle. The ratchet teeth d^5 , on the upper side of the spring will engage on the upper side of the slot d^2 , when the lever is pulled and thus it will be held, till released by the foot pressure on the top of spring bar d^4 , above the top of the car, or by pulling on the rod or chain d^5 , which is attached to the outer end of the spring d^4 , and extends down the front of the car. The slot c^4 , in the shank of the latch (just inside of slot c^3 , in which the pin d , of the lever plays,) allows when the cars are running, like as slot c^3 , all necessary motion to the latch without any effect on the lever or angle piece. The latch or coupler C, will be limited in its forward thrust by the shoulder c^{5x} , which strikes against the inside of the box (see Fig. 7). The bumper E, in the face of each car, and near the front end of the latch, each having a spring e , about it, will lessen the shock of impingement when the two cars are coupled.

By means of the angle piece F, attached to the front of the car and beyond the bumper which is adapted to play in the vertical and angled notch b^6 , of opposite box B, the car is steadied and at the same time considerable horizontal or oscillatory play is allowed during the running of the train for the ends of the two cars. These notches are made deep enough to provide for this play when the cars are rounding a curve. The piece F may be a part of the coupler box, or separate, as may be desired. In case, from wear or otherwise, the coupling on one car sags or is slightly lower than that on the other, the vertical faces of the ends of the latch heads will readily slide partially by each other in a vertical

line to make up for all this difference in the height of the two cars and at the same time give sufficient meeting face for the grasp of the two latch heads at this point.

When it is desired to use one of these couplers with a car which has only the old link and pin coupler, there is provided the bent rod G, (see Fig. 6) journaled or pivoted at its ends under the coupler and having a loop g , at the front center normally this loop hangs down, but when it is to be used for coupling it is turned up horizontally by the handles g' , extending beyond the ends on each side of the coupler; or if desired, a rod or wire may be attached to the end of the rod and thus make connection with the locomotive cab. Thus will be afforded the counterpart of the link and the coupling is completed in the usual way by a pin.

In order to use the air brake in connection with this coupler, there is provided the flaring mouth metal pipe H, under the box and projecting forwardly and at right angles to it. See Figs. 6, 8 and 9. This pipe has a cross slot h' , in the upper side just behind its bell mouth h , as shown in Fig. 6. When the pipe I, is inserted in the pipe H, the end of the piece c^5 , attached to the movable jaw will automatically fit just behind the hollow arrow head i , of the air brake pipe I, and thus retain said air pipe in place. The free end of the piece c^5 , slides in the slot b^x , of the box, as shown in Fig. 2. To put the head in the mouth the piece c^5 , is first retracted by sliding backward the latch, and then being released the piece c^5 automatically takes its position and locks the arrow head into the end of the pipe H. When desired the head of the air pipe can be disconnected by the reverse of the above movement.

When the cars are coupled the tops of the boxes of the couplers will together practically form a platform between them and if need be afford a place for the brakeman to stand. This platform will so fill up the space between the two cars at this point as to largely prevent liability to accident.

It will of course be understood that I may use on each car a coupler like unto B, or such a coupler on one car, and a coupler B', on the next car, or on each car a coupler like unto B'.

For the purpose of affording additional means for taking up the shock when the cars abut against each other, the couplers may be provided with bumpers at their inner ends, see Fig. 12, consisting of a disk b^{6x} , secured to a rod b^7 , passing through the coupler and provided with a coiled spring b^8 , located in a recess b^9 , in the outer face of the coupler. This bumper may be used in connection with the spring b^3 , or not as may be desired. The rod b^7 , extends through the beam to which the coupler is connected, and in some instances it may be projected rearwardly through a bar b^{10} , provided with a disk b^{11} , and a coiled spring b^{12} , see Fig. 11. By this construction a double spring bumper is provided.

What I claim is—

1. The box *b*, for the sliding coupler, attached horizontally to and generally parallel with the front of the car, and having in its front edge an angled slot for the seating or engagement of an angle piece on the front of the opposite car, substantially as described.
2. In combination with the slotted shank of the sliding coupling jaw or latch, the lever *D*, and its pin *d*, playing in said slot whereby in the motion of the running car the lever is not disturbed, substantially as set forth.
3. In combination with the coupler as described and the sliding jaw *C*, thereof the lever *D*, extending to the top of the car, and by means of spring attached to the front of the car and its ratchet teeth adapted to be held in fixed position, substantially as set forth.
4. In combination with the coupler attached to the car across its front and generally parallel thereto, the spring bumper *E*, substantially as described.
5. In combination with the coupler, as described, and having the piece *c*⁵, attached to the shank of the sliding jaw, the pipe *H*, cross slotted in its upper face for side piece to slide in the tubular arrow head *h*, of the air brake pipe *H*, substantially as set forth.
6. In combination with a car coupler an open mouthed pipe secured below it, and a spring movable in it in the act of operating the coupler to couple with the next car to secure the end of the air brake pipe, and in the uncoupling of the car acting to release the air brake pipe, substantially as described.
7. In combination with the coupler, as described, having a sliding jaw and rearward extension thereto, a pipe attached at right angles under said coupler and cross slotted near its mouth and the air brake pipe fitting in said attached pipe, said sliding extension adapted to move in said slot and engage upon the air pipe when placed in said attached pipe, whereby said brake pipe may be coupled or uncoupled by the action of the sliding jaw, substantially as set forth.
8. In combination with a car a coupler arranged horizontally across and generally parallel with its front the box *b*, of which is at one end hinged to the front of the car, substantially as set forth.
9. The coupling jaw or latch horizontally movable in a box hinged at one end to and so as to be generally parallel with the car front, substantially as described.
10. In combination with the sliding jaw coupler box hinged at one end to and so as to

be generally parallel with the front of the car, the spring between it and the car whereby the shock from the act of coupling is lessened substantially as set forth.

11. In combination with the sliding latch or jaw coupler hinged to the front of the car, the rod *b*⁴, connected to its inner end and actuated by the opening *b*³, whereby in the motion of the train sufficient resiliency is afforded to the box.

12. In combination with the sliding jaw coupler box hinged at one end to the front of the car, of the spring bumper located in said box, substantially as set forth.

13. In combination with the car platform and the sliding jaw coupler box hinged thereto, of the spring located in said box, the rod which said spring encircles passing through the box and also through a bar in the platform and a spring interposed between the said beam and front of the platform, substantially as set forth.

14. In combination with a box attached across the front of the car in a generally horizontal position, and having therein a sliding jaw, and having in its face a vertical angled slot *b*⁶, an angle piece *F*, on the opposite car adapted to fit and move in said angled slot of the aforesaid box, so that in the oscillations of the two cars up or down, or in turning curves, said means of connection operate to allow the greatest freedom of movement.

15. The combination of the two opposite car couplers constructed as herein described, each attached in a generally horizontal position across the front of its car, and each having a vertical angled piece and a vertical angled slot, said piece and slot being opposite to fitting each other and the abutting faces of the latch heads adapted to slide up and down on each other, whereby each coupler is allowed a free vertical movement on the other either to meet the different height of each coupler, or the up and down motion of the two cars or in turning curves.

16. In combination with the air brake pipe or connection secured to the coupler and slotted cross wise, a spring actuated catch acting automatically in the slot in said pipe or connection when the car is coupled or uncoupled, substantially as described.

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

JACOB HAISH.

Witnesses:

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BENJAMIN S. WHITE.