2 Sheets—Sheet 1.

J. E. PURDY.

Car-Coupling.

No. 223,244. Patented Jan. 6, 1880.

Fig: 1.

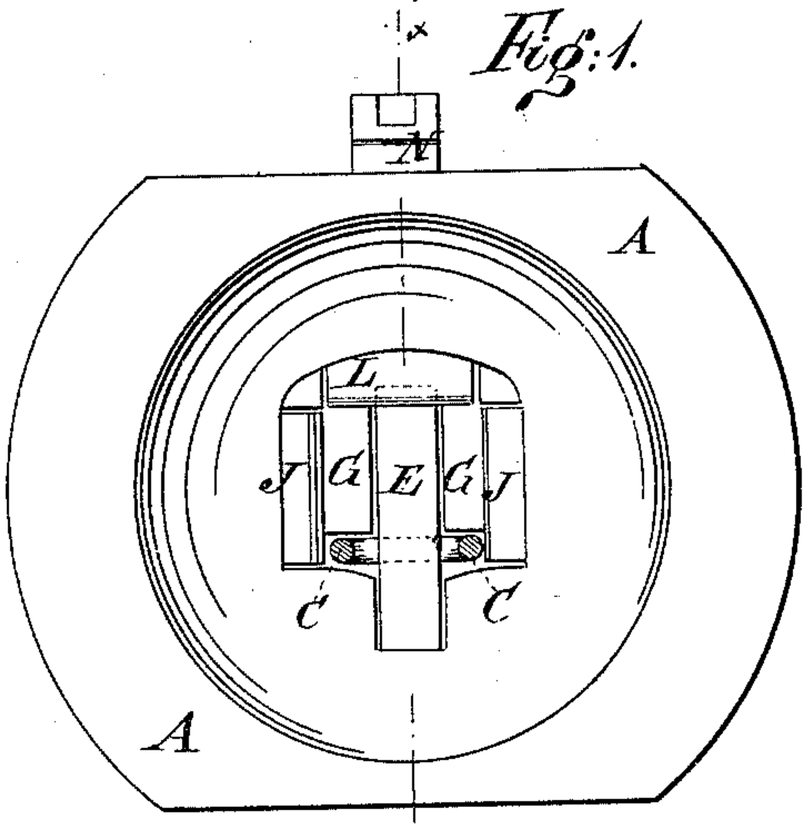
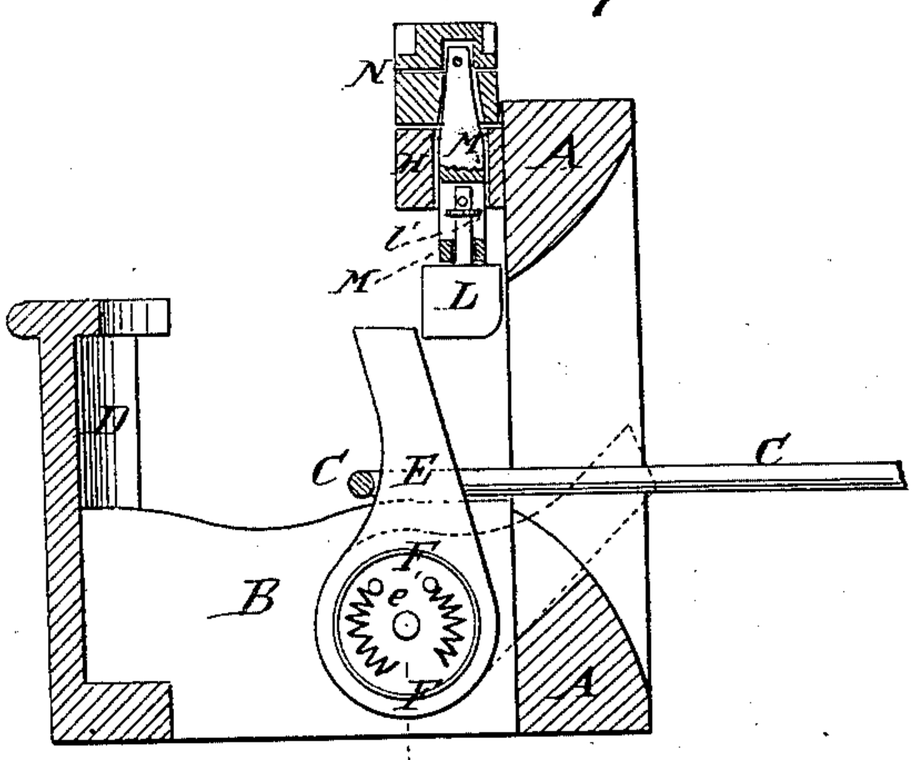


Fig: 2.



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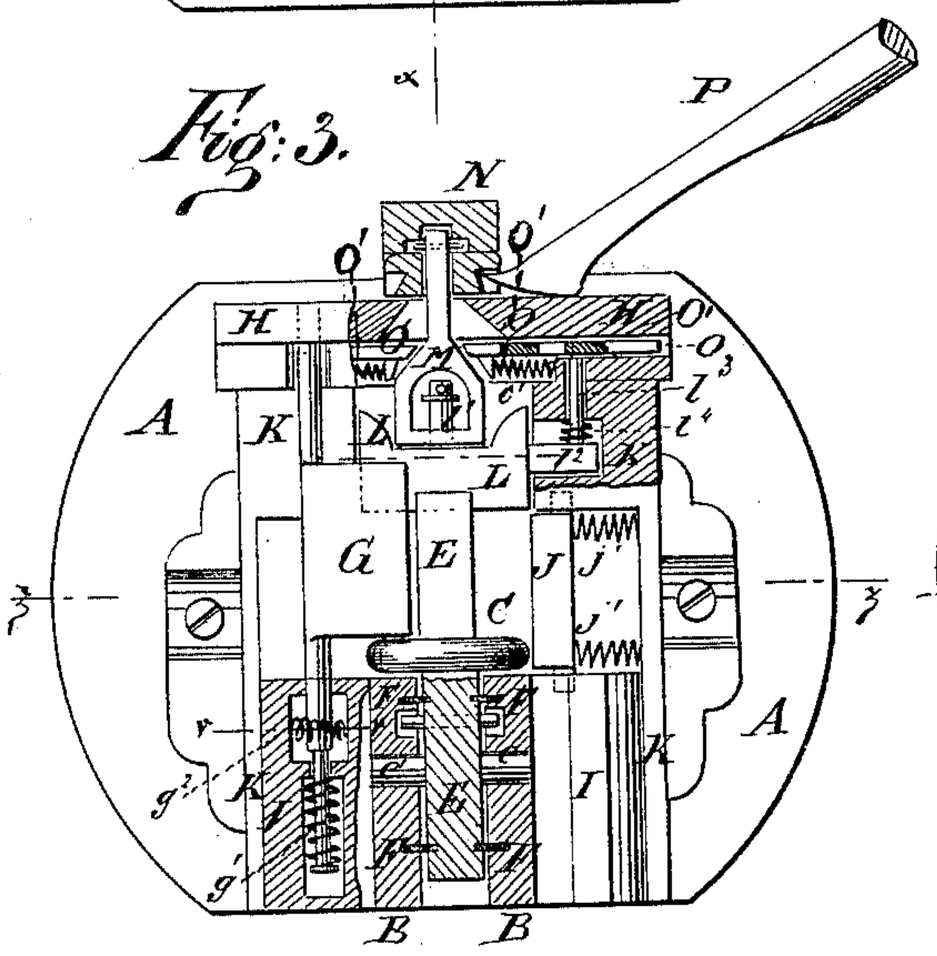

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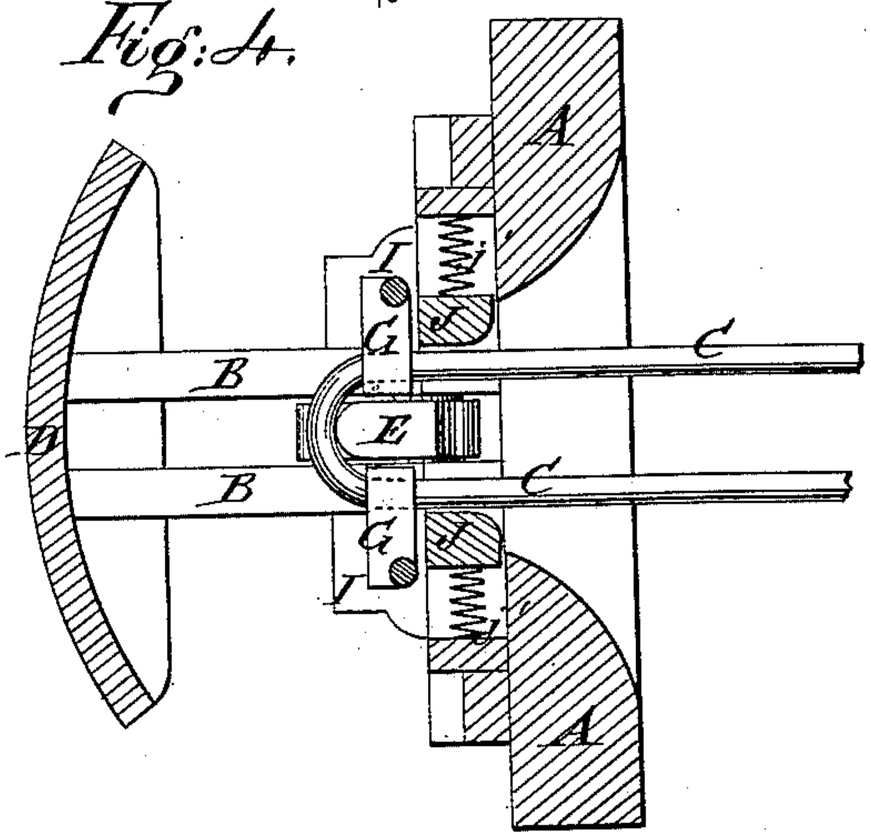


Fig: 6.

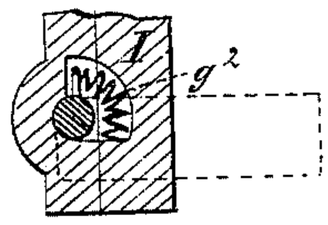
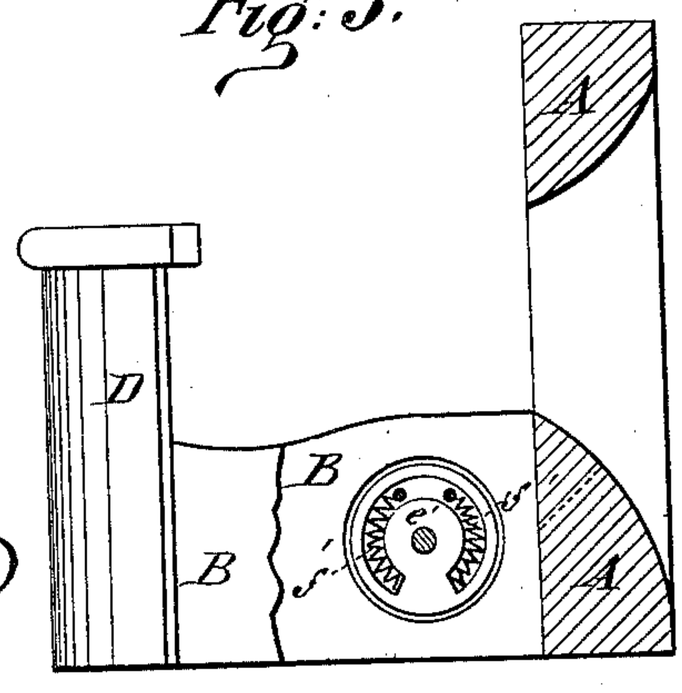


Fig: 5.



WITNESSES:

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2 Sheets—Sheet 2.

J. E. PURDY.

Car-Coupling.

No. 223,244. Patented Jan. 6, 1880.

Fig: 7.

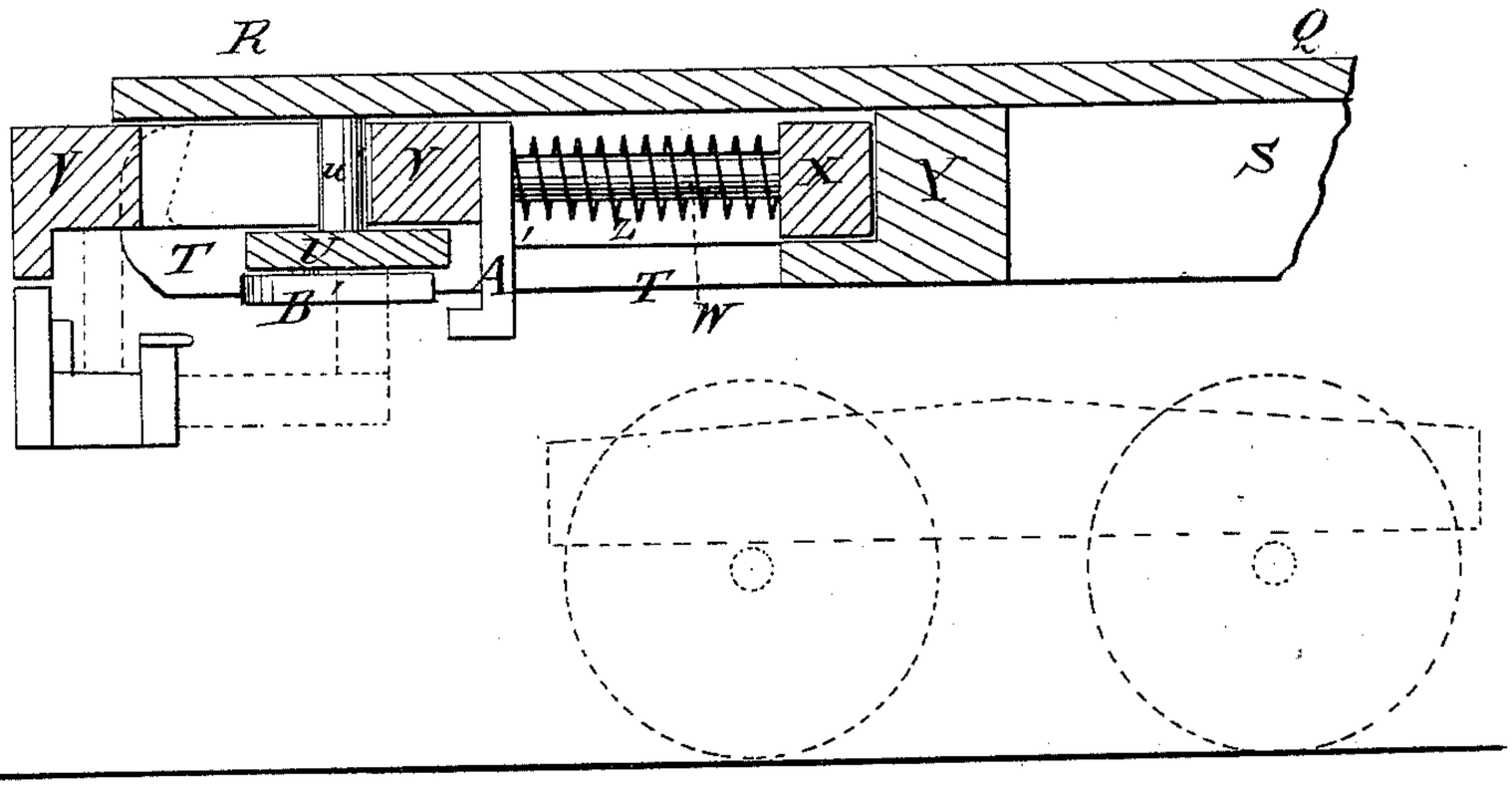
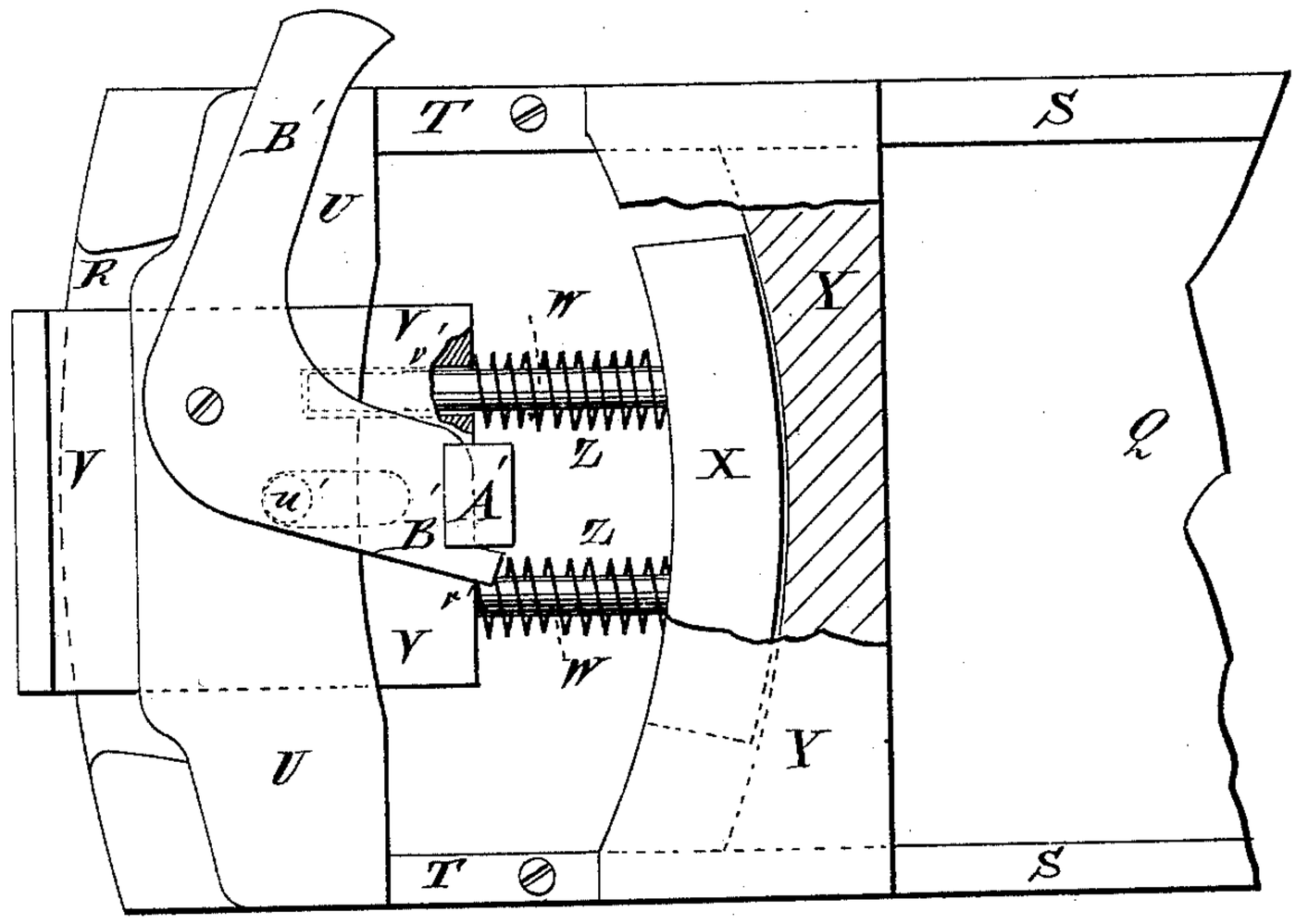


Fig: 8.



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UNITED STATES PATENT OFFICE.

JAMES E. PURDY, OF TALLAHASSEE, FLORIDA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 223,244, dated January 6, 1880.

Application filed May 28, 1879.

To all whom it may concern:

Be it known that I, JAMES EDWARD PURDY, of Tallahassee, in the county of Leon and State of Florida, have invented a new and useful Improvement in Self-Coupling and Safety Connecting-Platforms for Cars, of which the following is a specification.

Figure 1, Sheet 1, is a front view of one part of my improved car-coupling. Fig. 2, Sheet 1, is a vertical longitudinal section of the same, taken through the line *x x*, Fig. 1. Fig. 3, Sheet 1, is a vertical cross-section of the same through the line *y y*, Fig. 2. Fig. 4, Sheet 1, is a horizontal longitudinal section of the same, taken through the line *z z*, Fig. 3. Fig. 5, Sheet 1, is a side view of the same, partly in section to show the construction. Fig. 6, Sheet 1, is a detail section taken through the line *v v*, Fig. 3. Fig. 7, Sheet 2, is a vertical longitudinal section of the safety connecting-platform. Fig. 8, Sheet 2, is a view of the lower side of the same, part being broken away to show the construction.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish means for connecting cars, which shall be so constructed that the cars will couple themselves when run together, will not be liable to become accidentally uncoupled, will have sufficient play for passing around curves, will allow the slack of the coupling to be taken up without affecting the play of the cars when passing around curves, and will allow passengers and brakemen to pass from one car to another in safety, and which will be convenient and reliable in use.

The invention consists in the combination of the pivoted coupling-pin, the sliding block provided with the center-pin and the side arms and pins, the stirrup provided with the inclines upon its side edges, the top block, the sliding bars, and the springs with the bumper made with a concaved mouth and the parallel bars; in the combination of the bands and the springs with the pivoted coupling-pin and the parallel bars; in the combination of the guards pivoted at their outer edges and provided with the springs and the sliding guides provided with the springs with the bumper, the bars, and the pivoted coupling-pin; in the combination of the side bars, the cross-bar provided with the center-pin, the slotted platform, the guide-pins, the curved sliding block, the cross-bar provided with the curved rabbet in its forward edge, and the springs with each other to adapt them to be applied to a car; and in the combination of the hanger or pin and the bent lever with the platform, the springs, the guide-pins, the curved slide, and the two cross-bars, as hereinafter fully described.

A represents the bumper-head, which is designed to be connected with the car by the parallel bars B. The mouth of the bumper-head A is beveled off upon all sides, as is shown in Figs. 1, 2, and 4, so as to guide the coupling-link C into place from whatever direction it may come, and thus allow the cars to be coupled as certainly when upon a curve as when upon a straight track.

To the bars B is attached a stop, D, for the end of the link C to strike against when the cars are run together, and which is curved upon the arc of a circle having its center in the coupling-pin E, when the said pin is in a position to sustain the draft. The lower end of the coupling-pin E is made wide and in circular form, and is pivoted to and between the bars B by a cross pin or bolt, *e'*. To the sides of the inner end of the coupling-pin E are attached two circular bands, F, the outer edges of which work in ring-grooves in the inner sides of the bars B, and which are designed to cover and protect the two small spiral springs *f'*. The spiral springs *f'* are placed in curved grooves in the inner sides of the bars B, and their adjacent ends are attached to pins attached to the said bars B. The other ends of the springs *f'* are attached to the coupling-pin E.

By this arrangement one of the springs *f'* will draw the coupling-pin E forward when pushed back in coupling the cars, and the other will draw it back when drawn forward in uncoupling the cars.

The link C is guided into and held in place by the guards G, placed upon the opposite sides of the throat or central opening of the bumper-head A, as shown in Figs. 1, 3, and 4, and which are pivoted at the inner corners of their outer edges to supports H and I,

attached to the rear side of the said bumper-head A and to the sides of the bars B. The guards G are made shorter than the space between the supports H I, so that the lower ends of the said guards may rest upon the upper side of the coupling-link to hold it in place, and also to keep it in a horizontal position while the cars are being run together.

To the lower pivots of the guards G are attached springs g', to hold the said guards down upon the link C, and springs g^2, to hold the said guards G turned inward above the said link.

In the throat of the bumper-head A, just in front of the guards G, are placed two guides, J, which slide back and forth in recesses in supports K, attached to or formed upon the rear side of the bumper-head A, and are held forward by coiled springs j', interposed between them and the said supports K. The guides J guide the entering link into proper position, and steady it while in use, and at the same time allow it to have the necessary play.

The upper end of the coupling-pin E, when supporting the draft-strain, rests against the rear side of the block L, that slides up and down in ways in the inner sides of the supports K. To the center of the upper side of the block L is attached a pin l', which passes up through a hole in the base-bar of the stirrup M, and has a key or other fastening attached to its upper end, as shown in Figs. 2 and 3. The shank of the stirrup M passes up through a hole in the support H, and to its upper end is attached a block, N, which rests upon the top of the said support H. The upper part of the sides of the stirrup M are inclined, as shown in Fig. 3, and against them rest the inclined inner ends of the bars O, which slide in and out in horizontal holes in the supports H, and are drawn and held in by spiral springs o', attached to them and to the said supports, and placed in recesses in the said supports.

Upon the ends of the block L are formed, or to them are attached, arms l^2, which project into recesses in the supports K. To the arms l^2 are attached pins l^3, which project upward through holes in the upper part of the supports K and the lower part of the support H, and terminate at the lower sides of the sliding bars O, which bars O thus lock the block L down and prevent it from being thrown up by the jar of the cars and releasing the coupling-pin E accidentally. In the bars O, at the inner side of the pins l^3, are formed holes to receive the said pins l^3 and allow the block L to be raised when the said bars L are drawn outward. The block L is held down by the spiral springs l^4, placed upon the pins l^3, and interposed between the arms l^2 and the supports K at the upper side of the recesses in which the said arms l^2 are placed.

The stirrup M and the block L are raised by means of a lever, P, fulcrumed upon the top of the support H, and the forward end of which enters a recess in the side of the block N. With this construction, when the block N and stirrup M are raised, the first effect is to push back the bars O, and as the holes in the said bars O come over the pins l^3 the block L is raised, releasing the coupling-pin E, and allowing the coupling-link to be withdrawn. As soon as the coupling-link has been withdrawn the coupling-pin E flies back to its place, and the lever P may then be removed, the various parts of the coupling at once returning to their proper places ready to receive the coupling-link C when the cars are run together.

Q represents the part of a car-floor that is over the truck. R represents the platform-floor, and S represents the car-sills. To the sills S are bolted two iron bars, T, the forward ends of which are curved upward to hook around the forward ends of the said sills S. To the forward ends of the bars T, or to the floor or frame of the car, is bolted a cross bar or plate, U, to the center of the upper side of which is attached, or upon it is formed, a pin, u', to pass through a slot in the platform V and serve as a guide to the said platform in its movements.

The platform V is placed between the bar or plate U and the platform-floor R, and in the side parts of its rear end are formed two holes, v', to receive the forward ends of the guide-pins W, the rear ends of which are attached to the curved block X. The curved block X slides in a curved rabbet in the forward side of the cross-bar Y, the ends of which are attached to the rear parts of the side bars, T, or to the floor or frame of the car.

The platform V is held forward by the spiral spring Z, placed upon the guide-pins W, and interposed between the rear edge of the said platform V and the forward edge of the curved sliding bar X.

To the middle part of the rear end of the platform V is attached a hanger, A', for the end of the inner arm of the bent lever B' to bear against to push the platform V in beneath the platform R when desired.

The lever B' is pivoted at its angle to the bar or plate U, and its outer arm projects into such a position that it may be conveniently reached and operated by the brakeman when desired.

When in use the outer ends of the platform V of two adjacent cars rest against each other, and the peculiar construction of the various parts prevents them from interfering with the movements of the cars, whether running upon a straight track or around curves.

With this construction passengers and brakemen can pass from one car to another with safety, and at the same time the devices take up the slack of the link, and thus make the connection between the cars more firm and secure.

In the case of freight-cars the safety-platform is designed to be attached to the tops of the cars, so that the brakeman can readily and safely pass from one car to another.

Having thus described my invention, I claim

as new and desire to secure by Letters Patent—

1. The combination of the pivoted coupling-pin E, the sliding block L, provided with the center-pin l', and the side arms and pins, l^2 l^3, the stirrup M, provided with inclines upon its side edges, the block N, the sliding bars O, and the springs l^4 and o' with the bumper A, made with a concaved mouth, and the parallel bars B, substantially as herein shown and described.

2. The combination of the bands F and the springs f' with the pivoted coupling-pin E and the parallel bars B, substantially as herein shown and described.

3. The combination of the guards G, pivoted at their outer edges, and provided with the springs g' g^2, and the sliding guides J, provided with the springs j', with the bumper A, the bars B, and the pivoted coupling-pin E, substantially as herein shown and described.

4. The combination of the side bars, T, the cross-bar U, provided with the pin u', the slotted platform V, the guide-pins W, the curved sliding block X, the cross-bar Y, provided with the curved rabbet in its forward edge, and the springs Z with each other, to adapt them to be applied to a car, substantially as herein shown and described.

5. The combination of the hanger or pin A′ and the bent lever B′ with the platform V, the springs Z, the guide-pins W, the curved slide X, and the cross-bars Y and U, substantially as herein shown and described.

JAMES EDWARD PURDY.

Witnesses:
EPHM. H. POOLE,
T. H. RANDOLPH.