

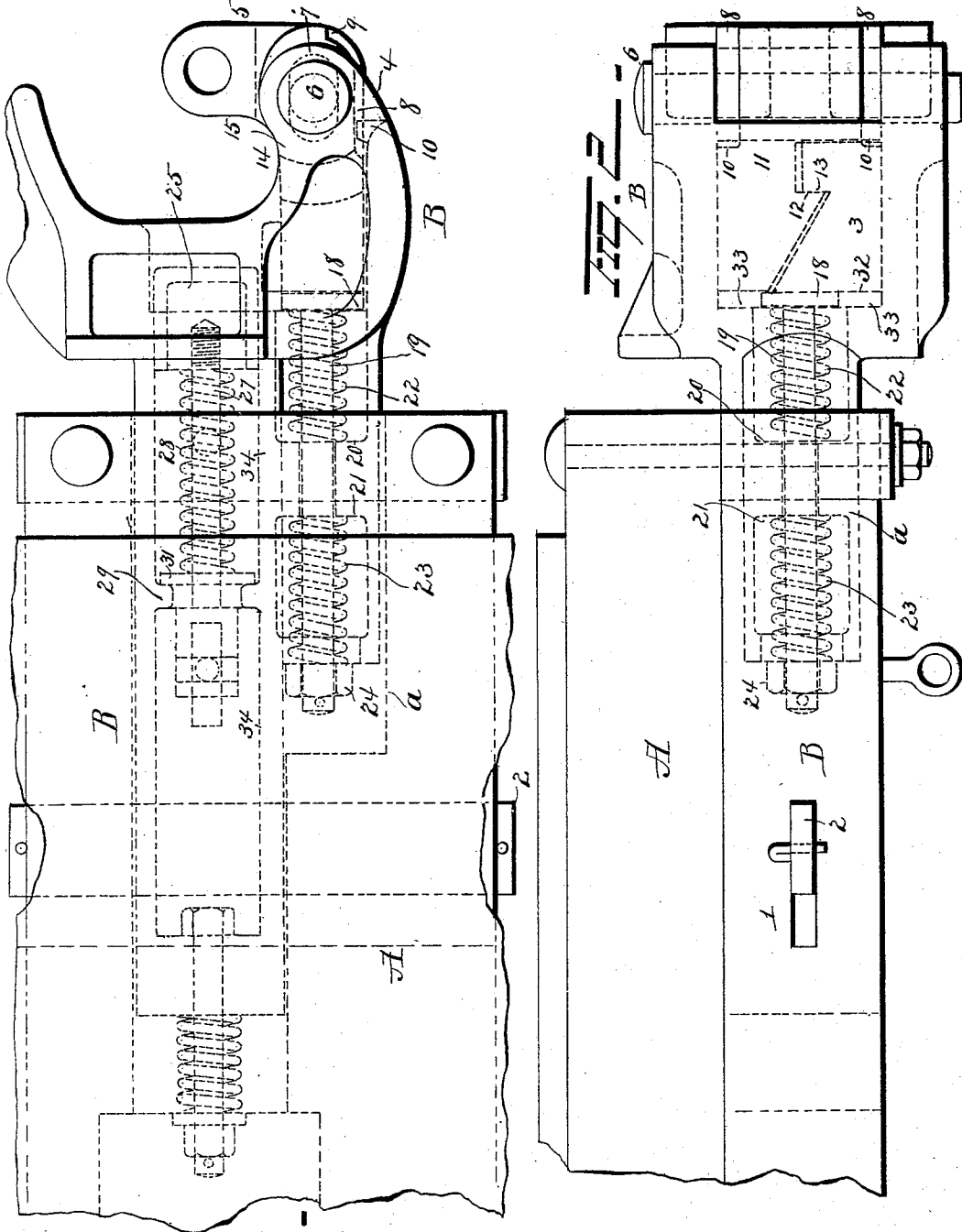
(No Model.)

2 Sheets—Sheet 1.

R. J. EDWARDS.
CAR COUPLING.

No. 569,374.

Patented Oct. 13, 1896.



Witnesses
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G. F. Downing

Inventor.
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Attorney

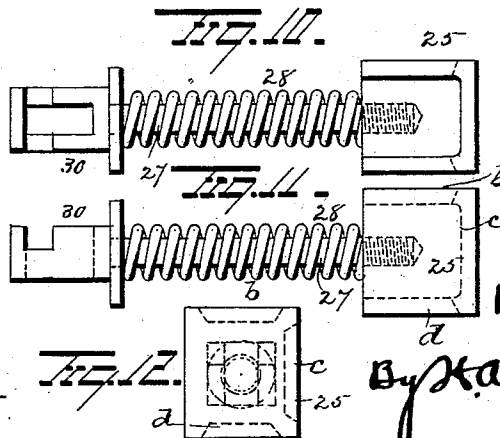
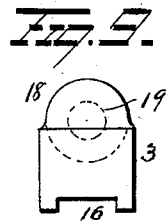
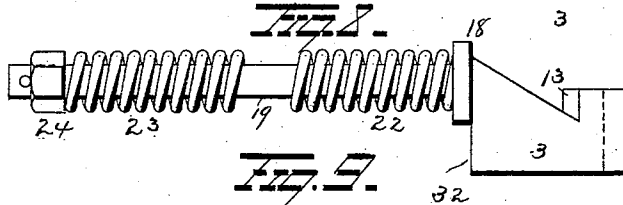
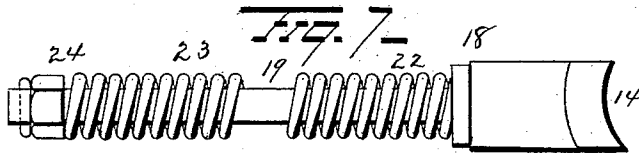
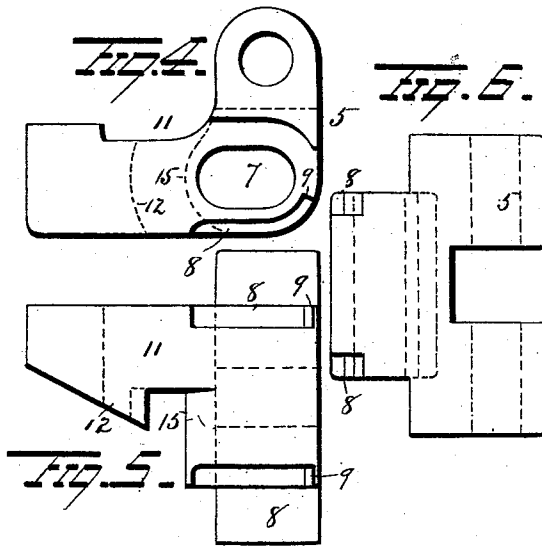
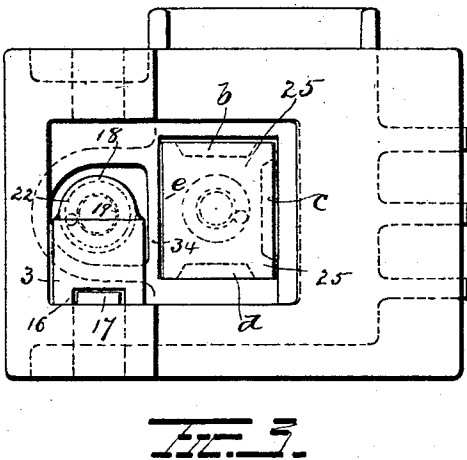
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2 Sheets—Sheet 2.

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CAR COUPLING.

No. 569,374.

Patented Oct. 13, 1896.



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UNITED STATES PATENT OFFICE.

RICHARD J. EDWARDS, OF GALENA, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 569,374, dated October 13, 1896.

Application filed January 25, 1896. Serial No. 576,831. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. EDWARDS, a resident of Galena, in the county of Jo Daviess and State of Illinois, have invented certain new and useful Improvements in Car-Couplings; 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.

My invention relates to an improvement in car-couplings, and more particularly to improvements upon that for which Letters Patent of the United States were granted to me on the 2d day of April, 1895, and designated by No. 536,860.

The object of my present invention is to improve, in various respects hereinafter explained, the construction shown and described in my aforesaid patent.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a coupling embodying my improvements. Fig. 2 is a side view. Fig. 3 is an end view. Figs. 4, 5, and 6 are detail views of the pivoted knuckle. Figs. 7, 8, and 9 are detail views of the longitudinally-movable block. Figs. 10, 11, and 12 are detail views of the locking-block.

A represents the draft-timbers of a car, and B the draw-bar of a coupling, which is made with a longitudinal slot 1, through which a flat bar or plate 2 passes, said bar or plate also passing through similar slots in the draft-timbers and serving to assist in holding the draw-bar and yet permit the latter to yield. At the forward end of the draw-bar the draw-head B is located and specially adapted, as hereinafter fully explained, for the accommodation of my improvements, and the draw-bar is further provided with a tubular rearward extension *a*, which communicates with the interior of the draw-head, said extension forming (in conjunction with a portion of the interior of the draw-head) a pocket for the reception of a longitudinally-movable block 3 and other devices which coöperate therewith.

One jaw 4 of the draw-head is adapted for the reception of a swinging knuckle 5, the pin 6, which pivotally connects the knuckle 5 to the jaw 4 of the draw-head, passing through an elongated slot 7 in said knuckle, so that when in use the knuckle can have a longitudinal movement or, in other words, a "pin-and-link motion."

The knuckle 5 is made in its outer face or edge at its respective ends with grooves or recesses 8, the forward ends of which are curved in conformity with the curved portion of the knuckle and terminate in shoulders 9. The draw-head is also provided within its lower portion with shoulders 10, against which the shoulders 9 on the knuckle will abut when the knuckle is swung back or open and thus limit the outward movement of the knuckle. The rearwardly-projecting arm 11 of the knuckle 5 is made hook-shaped, so as to form a shoulder 12, having a curved face to be engaged by a curved shoulder 13 on the longitudinally-movable block 3, and the forward end of the latter is made with a curved face 14, adapted to bear against a similarly-shaped enlargement 15 on the knuckle 5.

The block 3 is made in its under face with a recess 16, into which a lug 17 on the draw-head projects and prevents undue lateral movement of said block. The block 3 is made with a circular projection 18, which enters the tubular extension *a* on the draw-head, and from the projection 18 a rod 19 extends rearwardly through the extension *a*. The tubular extension *a* is made between its ends with an internal enlargement, whereby to form two annular shoulders 20 21. A spring 22 encircles the rod 19 and bears at its respective ends against the projection 18 of block 3 and against the shoulder 20 in tubular extension *a*. Another spring 23 encircles a rod 19 and bears at one end against the shoulder 21 in the tubular extension *a* and at the other end against a nut 24 on the end of said rod.

In the center of the draw-head a longitudinally-movable locking-block 25 is located and preferably set up about three-fourths of an inch from bottom of draw-head. The locking-block is also made with recesses *b c d* in its upper and lower faces and in its outer face, so that broad flat bearings liable to increase friction will be avoided.

The locking-block is so disposed normally that the flat face *e* will be parallel with the bearing-face 26 on the rear arm of the knuckle and the longitudinally-movable block 3, so as to lock the knuckle in its closed position.

A rod or shank 27 is screwed at its forward end to the locking-block 25 and extends rearwardly into and partially through the draw-bar. A spring 28 encircles the rod or shank 27 and bears at one end against the locking-block, the other end of said spring having its bearing on a plate 31, which bears against a shoulder 29 in the draw-bar. The spring 28 thus acts to normally project the locking-bar so as to cause it to be disposed in position to lock the knuckle.

The locking-block can be readily withdrawn, when it is desired to unlock the coupling, by means of a suitable device adapted to engage a block 30, secured to the rod or shank 27, and to be operated by means of any suitable appliances which terminate within easy reach of the operator.

From the construction and arrangement of parts above described it will be seen that the knuckle 5 will be permitted to have a longitudinal or pin-and-link motion when in use, as above explained, the shoulders 10 being at such time disposed in the straight portions of the grooves 8 and the forward and rearward movements of the knuckle being cushioned by the springs 22 23, respectively.

It will also be seen that when the locking-block is withdrawn so as to permit the pivoted knuckle to swing open the outward movement of said knuckle will be limited by the engagement of the shoulders 9 with the shoulders 10, as above explained, and the knuckle will be maintained in this position and prevented from being accidentally closed by the pressure of the spring-pressed block 3 against it.

When the knuckle is pressed back five-eighths of an inch, the rear end of the arm 11 of said knuckle and a shoulder 32 on the longitudinally-movable block will bear against a shoulder 33 in the shell of the draw-head, so as to protect the parts from pressure brought to bear against the end of the coupling. I prefer to provide a small partition 34 between the longitudinally-movable block and the locking-block, said partition being about one-fourth of an inch thick and extending as far back as said blocks work.

By providing the longitudinally-movable block 3 with a recess in its under face for the reception of a lug in the draw-head said block will be maintained properly in place when pressure is brought to bear in the act of uncoupling.

My improvements are simple in construction, metal is economized in the formation of the various parts, and my coupling is effectual in all respects in the performance of its functions.

Having fully described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination with the draw-head, of a knuckle connected thereto so as to have a pivotal and a longitudinal movement, shoulders on the draw-head, guides in the knuckle for said shoulders, and shoulders on the knuckle to engage the shoulders on the draw-head and limit the outward movement of the knuckle, substantially as set forth.

2. In a car-coupling, the combination with a draw-head, of a pivoted knuckle so connected with the draw-head as to have a pin-and-link motion, said knuckle having grooves terminating at one end in shoulders, and shoulders on the draw-head disposed in said grooves and adapted to be engaged by the shoulders at one end of said grooves, substantially as set forth.

3. In a car-coupling, the combination with a draw-head, and a knuckle pivoted thereto, said knuckle having a curved enlargement thereon of a spring-pressed block adapted to bear against the enlargement on said knuckle and hold it in its open position, substantially as set forth.

4. In a car-coupling, the combination with a draw-head, of a knuckle pivoted thereto, said knuckle having a curved enlargement between its arms, and a spring-pressed block having a curved end to engage said curved enlargement and hold the knuckle open, substantially as set forth.

5. In a car-coupling, the combination with a draw-head, of a knuckle pivoted thereto so as to have a pivoted and a pin-and-link motion, a curved shoulder on the inwardly-projecting arm of the knuckle, a longitudinally-movable yielding block, and a curved shoulder on said block to engage the shoulder on the knuckle, substantially as set forth.

6. In a car-coupling, the combination with a draw-head, of a knuckle pivoted thereto so as to have a pin-and-link motion, a longitudinally-movable yielding block adapted to interlock with the inwardly-projecting arm of the knuckle, said block having a recess in its bottom and a lug in the draw-head to enter said recess, substantially as set forth.

7. In a car-coupling, the combination with a draw-head and a draw-bar, of a tubular extension on the draw-bar and communicating with the draw-head, a knuckle pivoted to the draw-head so as to have pin-and-link motion, a longitudinally-movable block adapted to interlock with the inwardly-projecting arm of the knuckle, a shank secured to said block and extending through said tubular extension, shoulders in said extension, a spring within said tubular extension bearing against one of said shoulders and the block, and another spring bearing against the other shoulder and a nut on the end of said rod, substantially as set forth.

8. In a car-coupling, the combination with

a draw-head and a knuckle pivoted thereto so as to have a pin-and-link motion, of a longitudinally-movable yielding block adapted to interlock with the inwardly-projecting arm of the knuckle, and a locking-block set up less than an inch from the bottom of the draw-head, substantially as set forth.

9. A knuckle for a car-coupling having two members disposed at right angles to each other and having an elongated slot at the junction of said members, said knuckle also having elongated slots curved at one end and shoulders at the curved end of said slots substantially as set forth.

10. A knuckle for a car-coupling comprising two members disposed at right angles to each other and having an elongated slot at the junction of said members, and a curved enlargement on one of said members at its junction with the other member, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

RICHARD J. EDWARDS.

Witnesses:

R. TOWNSEND,
WM. D. BENNAGE.