

(No Model.)

J. C. BURBANK.
CAR COUPLING.

No. 468,327.

Patented Feb. 9, 1892.

Fig. 1.

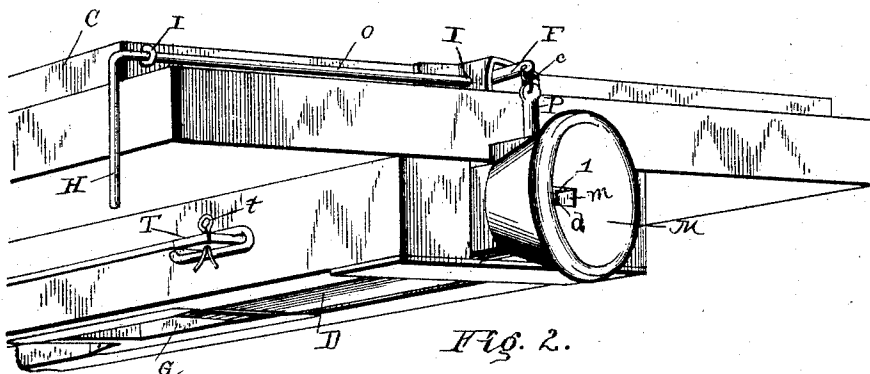


Fig. 2.

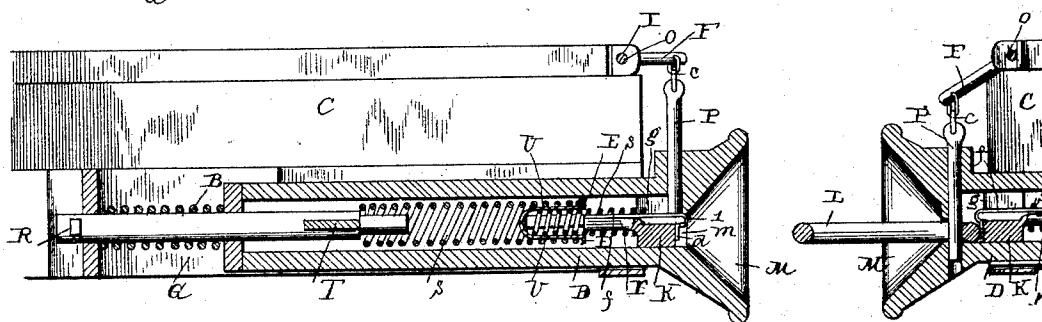
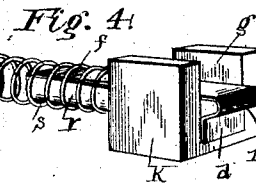
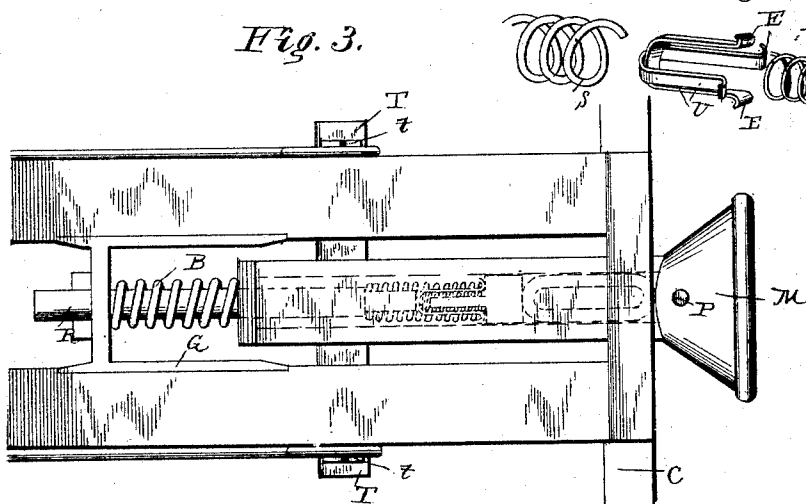


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN C. BURBANK, OF JONESBOROUGH, ARKANSAS, ASSIGNOR OF ONE-HALF TO NATHAN T. SHOTWELL, OF WEST PLAINS, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 468,327, dated February 9, 1892.

Application filed September 24, 1891. Serial No. 406,735. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. BURBANK, a citizen of the United States, residing at Jonesborough, in the county of Craighead and State of Arkansas, have invented a new and useful Car-Coupling, of which the following is a specification.

This invention relates to car-couplings, and more especially to that portion thereof known as draw-bars and springs; and the object of the same is to effect certain improvements therein whereby the device will couple automatically and yet the link will be prevented from becoming crushed.

To this end the invention consists in the construction hereinafter more fully described and claimed and as illustrated on the sheet of drawings, wherein—

Figure 1 is a perspective view of the end of a platform-car provided with my improved coupling and looking slightly from the under side. Fig. 2 is a central longitudinal section of two draw-bars and draw-heads, showing a link coupled into the right one and showing the pin raised in the left one. Fig. 3 is a bottom plan view of the draw-bar and the supports and connections therefor. Fig. 4 is an enlarged perspective detail of the pin-supporting block and its operative springs.

Referring to the said drawings, the letter C designates the car-body and the usual beams beneath the same, and between these beams is mounted a casting forming a guide G, which contains the buffer-springs B, and through these springs and the guide passes a longitudinal rod R.

D is the draw-bar, having an enlarged and flaring mouth M provided with a vertical opening for the pin P and with the usual longitudinal opening. The rod R passes into the rear end of the draw-bar and a transverse bar T passes through the beams on the car, through the draw-bar, and through the rod R, the ends of this transverse bar being provided with split pins *t* and with any other suitable and desirable braces and fastening means.

Secured to the front end of the rod R is a strong coiled spring S, which stands within the draw-bar, and in the front end of this spring is fastened a socket (best seen in Fig.

4) and comprising two U-shaped members U, standing in planes at right angles to each other, connected at their centers, and having outturned ends E, which pass outwardly over and are secured to the outer convolution of the spring S. *s* is a smaller and somewhat weaker spring, also of the spiral type, its inner end being connected to the bottom of the socket, its body standing therein, and hence within the front end of the stronger spring, and its front end projecting beyond the front end of the socket. The pin-supporting block K (also best seen in that figure) comprises a rectangular body with a deep groove *g* in its upper face, a rearwardly-projecting shank *r*, and a flat spring *f*, secured upon the rear end of said shank, extending forward through said groove, forming a lip *l*, which stands in front of the body of the lock, and then turned down, as at *d*, against the front end of said body. The latter slides within the opening in the draw-bar D, being pressed normally forward by the two springs S and *s*, its rearwardly-projecting shank *r* standing within the weaker spring, as shown. The opening *m* through the mouth of the draw-head is smaller than that throughout the length of the draw-bar, and hence when this block is pressed forward by the springs the mouth limits its movement, and when in its normal position the lip *l* stands across the vertical pin-opening while the downturned end *d* stands in position to be struck by the end of the link.

The letter L designates the link, which is of the usual construction, and P is the pin. In the present case I have shown said pin as adapted to be raised by an operating device O, which consists, simply, of a rod journaled in eyes I in the end of the car, having its outer end cranked to form a handle H and having its inner end extended forwardly, as at F, and connected by a link or short chain *c* with the pin, although it will be understood that any other means which are suitable may be adopted for operating the pin.

With the above construction of parts the operation and advantages of my invention will be as follows: When the pin is raised, the springs drive the block forward and the lip thereof passes under the pin and holds it raised. When a link is driven into a draw-

head in this position of parts, it strikes the block, pushes it to the rear by compressing the springs, and allows the pin to fall through the link, thus automatically coupling. When a link is locked in a draw-head of this construction, its inner end stands under the lip, and its outer end is therefore sustained in proper position to automatically couple with another draw-head; but if through any accident the link should be driven against some object—such as another link or an imperfect draw-head—into which it could not pass it will be obvious that the stronger spring S would yield and allow the entire block and link to move to the rear to such an extent that the front end of the link would come flush with the front end of the draw-head, as shown in dotted lines in Fig 3. When the pin is raised, the spring S moves the block suddenly forward to the position shown at the left of Fig. 2 and throws the link entirely out of the draw-head.

A car-coupling of this character can be cheaply constructed, is very strong and durable, and has few wearing parts. I do not limit myself to the precise details of construction, as considerable change may be made therein without departing from the spirit of my invention.

What is claimed as new is—

1. In a car-coupling, the combination, with a guide supported between beams on the car-body, a rod passing through said guide and having a transverse slot, and a buffer-spring within the guide, of a draw-bar surrounding said rod and bearing against the front end of said spring, a transverse bar passing through said beams and draw-bar and through the slot in said rod, and coupling devices, substantially as described.

2. In a car-coupling, the combination, with a draw-bar having a longitudinal opening reduced at the mouth, a vertical pin-opening, and a pin moving in the latter opening, of a rod detachably secured within said draw-bar, a strong spring projecting forwardly from the rod, a socket in the front end of said spring, a weaker spring in said socket, and a pin-supporting block connected to and pressed normally forward by said weaker spring, as and for the purpose set forth.

3. In a car-coupling, the combination, with a draw-bar having a longitudinal opening reduced at the mouth, a vertical pin-opening, and a pin moving in the latter opening, of a strong spring within the draw-bar, a weak

spring connected to the front end of the strong spring, and a pin-supporting block borne normally forward by said springs, as and for the purpose set forth.

4. In a car-coupling, the combination, with a draw-bar having a longitudinal opening reduced at the mouth, a vertical pin-opening, and a pin moving in the latter opening, of a strong spring within the draw-bar, a socket comprising two U-shaped members crossed and connected at the centers of their bends, standing in the front end of said spring, and having outwardly-bent extremities secured to the outer coil of this spring, and a pin-supporting block having a reduced shank adapted to enter said socket, the block being pressed normally forward by said spring, substantially as described.

5. In a car-coupling, the combination, with a draw-bar having a longitudinal opening reduced at the mouth, a vertical pin-opening, and a pin moving in the latter opening, of a strong spring within the draw-bar, a socket comprising two U-shaped members crossed and connected at the centers of their bends, standing in the front end of said spring, and having outwardly-bent extremities secured to the outer coil of this spring, a weak spring standing within said socket, its rear end being secured to the bottom thereof and its front end projecting beyond the mouth thereof, and a pin-supporting block having a reduced shank fitting within said weak spring, as and for the purpose set forth.

6. In a car-coupling, the combination, with a draw-bar having a longitudinal opening reduced at the mouth, a vertical pin-opening, and a pin moving in the latter opening, of a spring within the draw-bar, a pin-supporting block borne thereby normally against said reduced mouth, said block having a groove in its upper side and a rearwardly-extending shank, and a spring secured upon said shank, passing through the groove, forming a forwardly-projecting lip, and turned down and sliding against the front end of the block, as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN C. BURBANK.

Witnesses:

O. W. ANDERSON,
J. A. HOUGHTON.