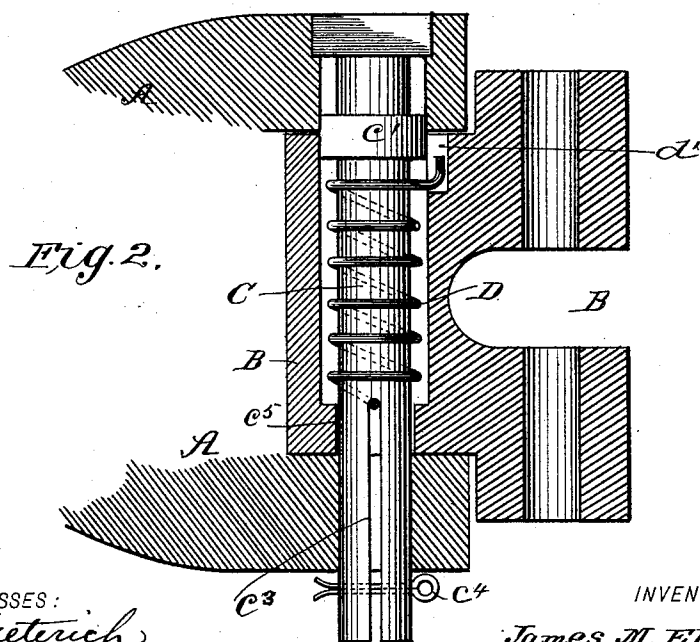
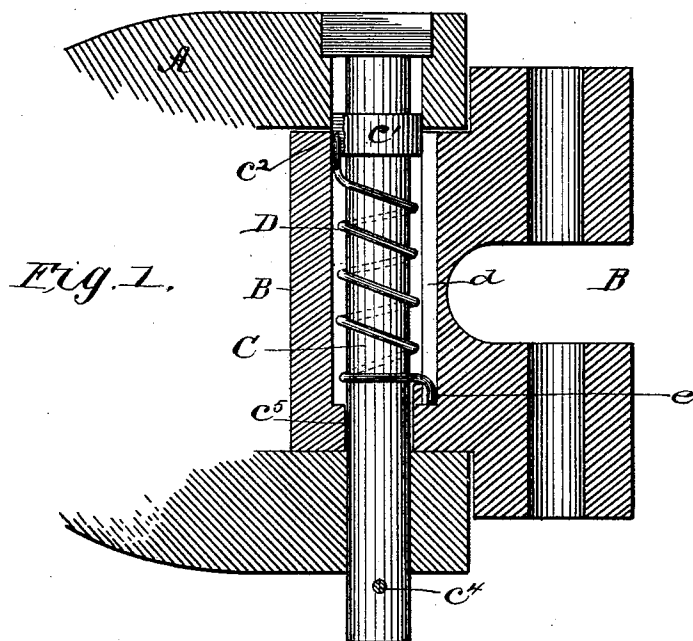


(No Model.)

J. M. ELLIOTT, Jr.  
CAR COUPLING.

No. 483,048.

Patented Sept. 20, 1892.



WITNESSES:

*Fred G. Dietrich*  
*Edw. W. Byrnes*

INVENTOR:

*James M. Elliott, Jr.*  
BY *Munn & Co.*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

JAMES M. ELLIOTT, JR., OF GADSDEN, ALABAMA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 483,048, dated September 20, 1892.

Application filed April 11, 1892. Serial No. 428,672. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. ELLIOTT, JR., of Gadsden, in the county of Etowah and State of Alabama, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention relates to car-couplings of that type generally known as the "Janney" coupler, in which the knuckle or coupling-hook is pivoted on one side of the draw-head about a vertical axial pin.

The object of my invention is to provide a practical and effective means for positively throwing the knuckle or coupling-hook out to its open or uncoupled position in an automatic manner when the cars are separated, so as to be ready for automatic coupling again without readjustment of the knuckle; and to this end it consists in the peculiar construction and arrangement of the axial pin, a spiral spring surrounding the same, and the knuckle, as will be hereinafter fully described.

Figure 1 is a vertical sectional view taken through the draw-head, showing my invention, and Fig. 2 is a similar view showing a modification of the same.

In the drawings, A represents a portion of the draw-head, and B is the knuckle or coupling-hook, which is pivoted within the head A upon a vertical pin C. The knuckle does not closely fit the pin throughout its length, but is chambered out to form a space large enough to receive the spiral spring D. At the lower part of the knuckle, however, at  $c^5$ , it does fit closely to the pin, and at the upper part of the knuckle the pin is formed with a boss or enlargement  $c'$ , that fits the larger bore of the knuckle, and with the bearings  $c^5$  below holds the knuckle to its proper position in the swinging movement.

The spring D is attached at one end to the knuckle and at the other end to the pin, and in order to enable this spring to exert its tension upon the knuckle the pin must be held rigidly in the draw-head against turning. For this purpose the head of the pin is made square, hexagonal, or other shape than round, and is made to fit into a recess or depression in the draw-bar of a corresponding shape, so that when seated therein it is rigidly con-

nected to the draw-head, a split key  $c^4$  at the bottom serving to prevent the pin from accidentally rising.

As so far described the two forms of the device shown in Figs. 1 and 2 are alike. The manner of arranging the spring in relation to its coacting parts and putting these parts together may be varied as follows:

In Fig. 1 the upper end of the spring is entered into the notch or slot  $c^3$  in the boss  $c'$  of the pin, while its lower end is entered into a hole or recess  $e$  in the knuckle, which is in line with the vertical slot or channel  $d$ , formed in the inner bore or chamber of the knuckle. The parts in such case are put together by first putting the bore of the knuckle in coincidence with the pin-hole in the draw-bar, then dropping the spring in place, its lower end traveling down the slot  $d$ , and finally dropping the pin in and locking the notch  $c^3$  over the upper end of the spring.

In Fig. 2 the upper end of the spring is attached to the knuckle and the lower end to the pin, and to adapt the parts to the arrangement a recess  $d'$  is formed in the top part of the knuckle, and the pin is slotted at  $c^3$  diametrically from its lower end up to the spring. The same order of assembling the parts, however, is observed, the slot  $c^3$  of the pin moving down over the lower end of the spring instead of the end of the spring moving down in the slot of the knuckle, as in Fig. 1.

I am aware that a loose pin connecting the knuckle with the draw-head has been surrounded by a coil-spring, one end of which spring was attached to the knuckle and the other to the draw-head. I make no claim to this arrangement, but only to the combination of parts in which one end of the spring is attached to the pin and the pin itself is locked rigidly and adjustable within the draw-head by its square or other-shaped head. This permits the pin to be partly withdrawn and turned a quarter, half, or whole revolution to increase the tension of the spring, and thus adjust it to any lack or loss of power and make it effectively do its work.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the draw-head, of

a detachable pin having means for locking it to the draw-head against turning, the knuckle or coupling-hook pivoted about the pin, and a spiral spring surrounding the pin and attached at one end to the axial pin and at the other to the knuckle, substantially as shown and described.

2. The combination, with the draw-head, of a detachable pin having hub  $c'$  and means for locking the pin to the draw-head, the knuckle or coupling-hook having an enlarged chamber above and a close-fitting bearing  $c^5$  below, and a spiral spring fitting in said enlarged chamber and having its opposite ends connected, respectively, to the pin and the

knuckle, substantially as shown and described.

3. The combination, with the draw-head, of the detachable pin having boss  $c'$ , with notch or slot  $c^2$ , the knuckle or coupling-hook having enlarged chamber with slot  $d$  and recess or hole  $e$ , and the spiral spring D, encompassing the pin and having its upper end seated in the slot  $c^2$  and its lower end in the recess  $e$ , substantially as shown and described.

JAMES M. ELLIOTT, JR.

Witnesses:

J. H. HARDEN,

W. W. PETTIS.