(No Model.)

T. L. McKEEN.

CAR COUPLING.

No. 472,799. Patented Apr. 12, 1892.

Fig. 1

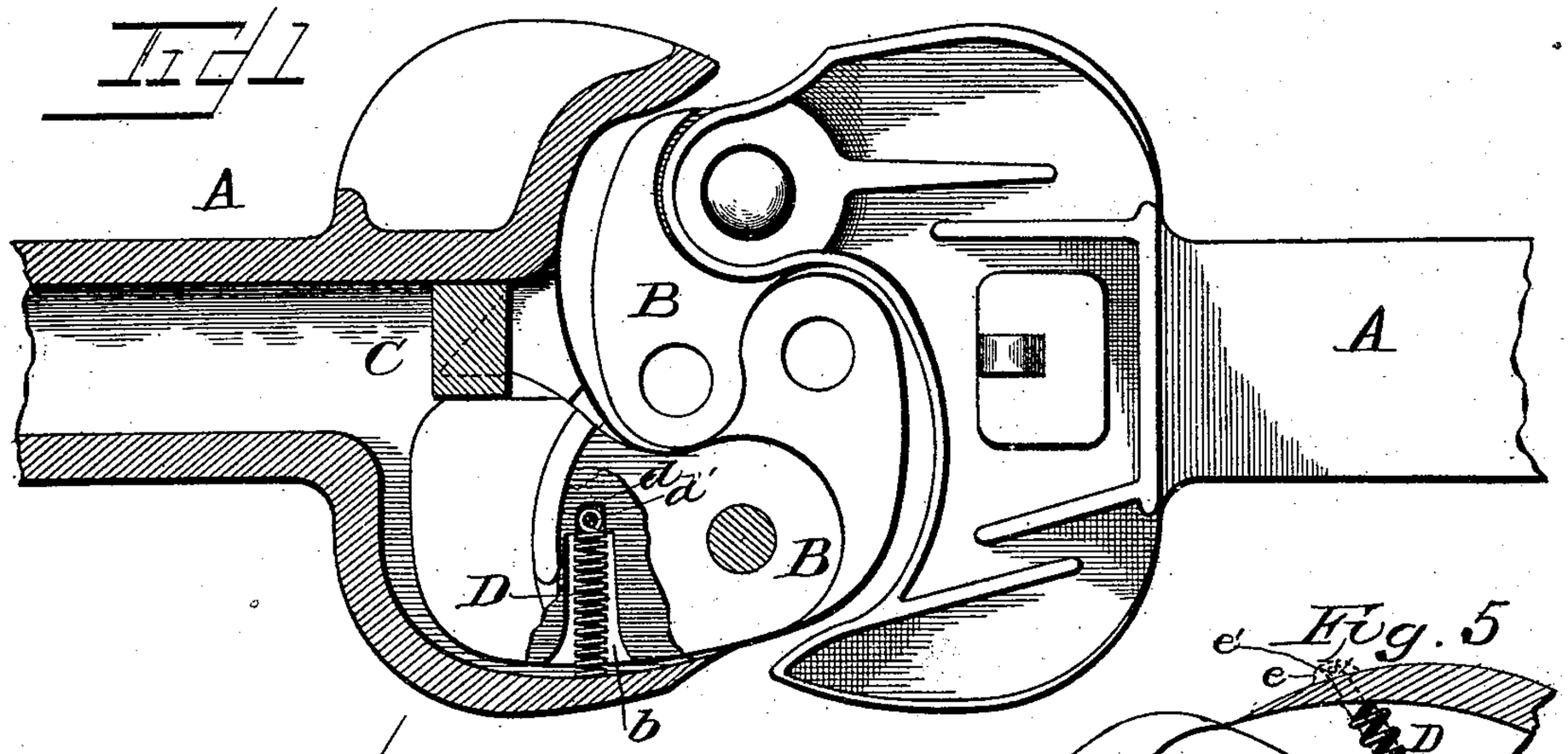


Fig. 5

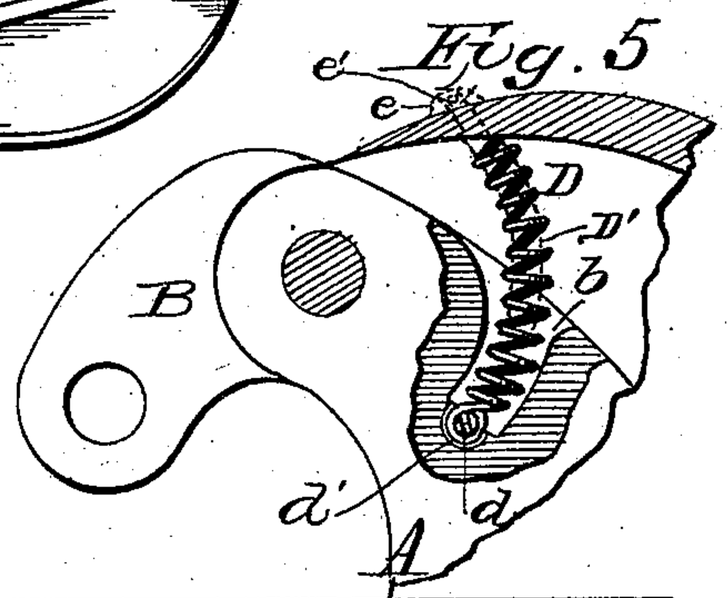


Fig. 2.

Fig. 6.

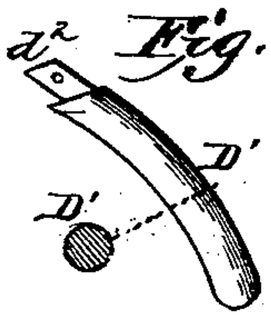


Fig. 4

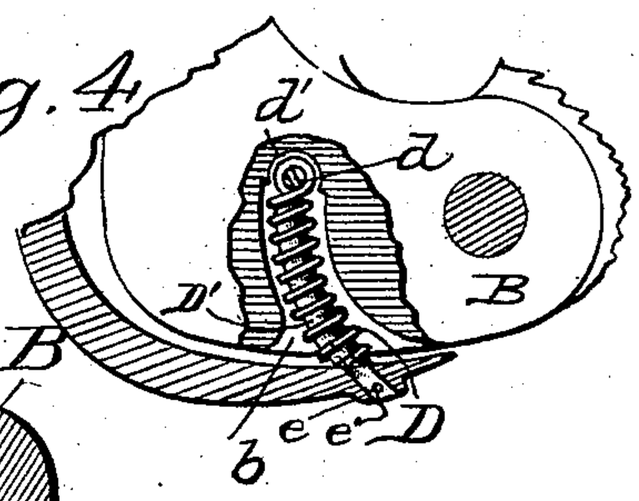
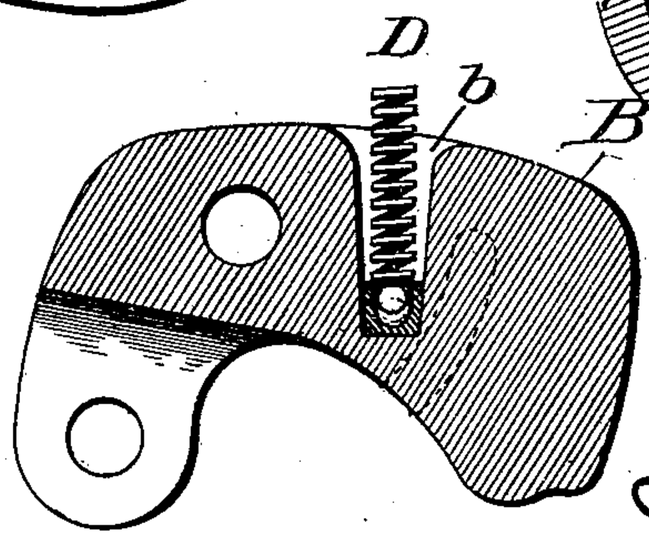


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS L. McKEEN, OF NEW YORK, N. Y., ASSIGNOR TO THE THURMOND CAR COUPLING COMPANY, OF WEST VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 472,799, dated April 12, 1892.

Application filed July 13, 1891. Serial No. 399,302. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. McKEEN, a citizen of the United States, residing at New York, in the county of New York and State of New York, 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 car-couplers, and is more especially applicable to that class of couplers called the "twin-jaw" type.

The object of my invention is to provide for certain improvements in the coupler described in Letters Patent No. 431,415, dated July 1, 1890, No. 430,709, dated June 24, 1890, and No. 445,817, dated February 3, 1891.

In order to obviate the necessity of sending any one between the cars should the knuckle be accidentally closed, it has been found necessary to employ some automatic device for opening the knuckle and for keeping it open at all times when the pressure of another coupler is not keeping it closed. It has also been considered advisable not to materially modify the structure of the coupler described in the said patents, which has been the outcome of many theoretical calculations supplemented by extensive practical tests. I have therefore designed a spring, which, fitting in a recess in the strongest part of the knuckle and being attached in the manner described, forms an efficient device for automatically opening the said knuckle without in any material way altering the design of the castings or the strength of the coupler.

Reference is had to the accompanying drawings, wherein the same parts are indicated by the same letters.

Figure 1 represents a top plan view showing two of my couplings hooked together, the one to the right being shown in projection and the one to the left being shown partly in section. Fig. 2 represents a sectional view of a coupler, showing the knuckle automatically thrown open by the spring. Fig. 3 represents a central horizontal section of the knuckle, showing a modified form of the method of attaching the spring to the knuckle. Fig. 4 represents a modification of the method of inserting the spring in the knuckle, the latter being closed. Fig. 5 represents the device shown in Fig. 4, the knuckle being open. Fig. 6 represents a view in perspective and cross-section of the plunger for holding the spring in place.

The improved coupler, consists, essentially, of three parts—the draw-bar A, the draft or coupling hook B, and the locking bar or bolt C.

The details of construction of the coupler are fully shown in Patent No. 445,817, and are clearly shown in the drawings hereunto annexed. The knuckle H has a tapering recess *b*, into which the spiral spring D is secured. This recess is preferably curved, as shown in Figs. 4 and 5, in order that the spring may continue to act as a short lever-arm as the knuckle is pushed out. This recess has a semi-cylindrical groove *b'* in the base thereof with shoulders b^2. The said spring has a loop *d*, which engages the pin *d'*. Said pin passes through the knuckle, the semi-cylindrical groove *b'* and the loop *d* holding the spring firmly in the knuckle, and so lessening any possibilities of the spring slipping out of or jamming in the said knuckle. The shoulders b^2 give a bearing-surface for the last spiral of the spring.

In Fig. 3, instead of being secured in the curved groove *b'*, the loop of the spring presses into a cup-shaped rubber buffer *e*, which fits snugly in the base of the recess *b*. This rubber buffer assists the spring in its initial effort when the main strength of the spring is required and at the same time eases the strain on the spring itself. Moreover, it furnishes a bearing-surface for the spring, rendering the shoulders b^2 unnecessary. For use with the rubber buffer *e* the loop should, preferably, be oblong, as shown in Fig. 3.

In Figs. 4 and 5 the recess in the knuckle is curved, while the spring is guided by a curved plunger D', held rigidly by the tenon d^2 in the draw-head.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a twin-jaw car-coupler, the combination, with a hollow draw-head, of a knuckle pivoted therein, the said knuckle having a curved recess therein and a spiral spring fitting in the curved recess and tending to open said knuckle, substantially as described.

2. In a twin-jaw car-coupler, the combination, with a hollow draw-head, of a knuckle pivoted therein, the said knuckle having a curved recess therein, a spiral spring fitting in the curved recess and tending to open said knuckle, and a curved plunger D′, rigidly held in said draw-head and fitting in said spring, substantially as described.

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

THOMAS L. McKEEN.

Witnesses:
T. W. GETMAN,
M. C. HASCALL.