(No Model.) 2 Sheets—Sheet 1.

F. P. FISHER.

CAR COUPLING.

No. 304,191. Patented Aug. 26, 1884.

Fig. 1.

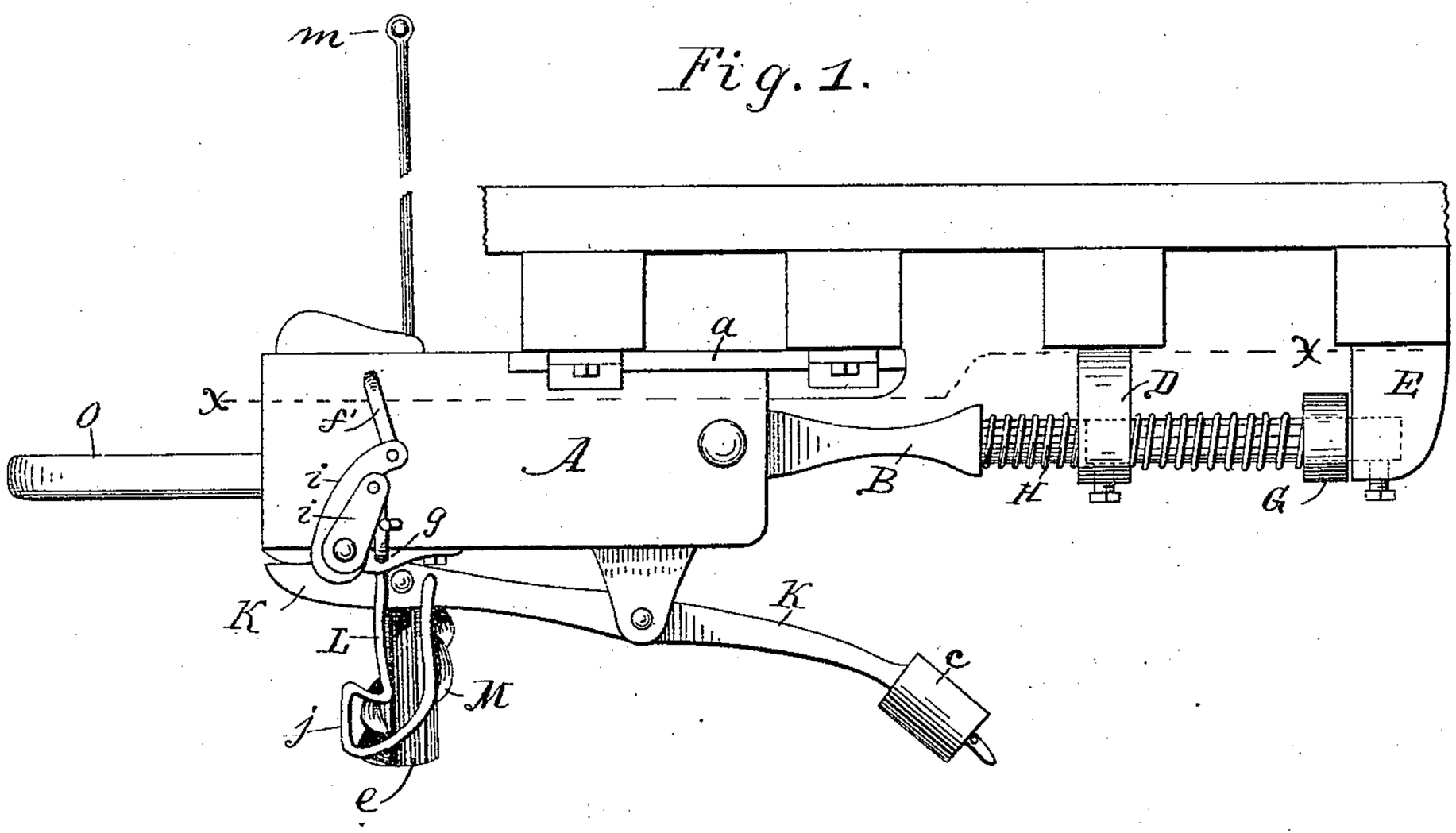
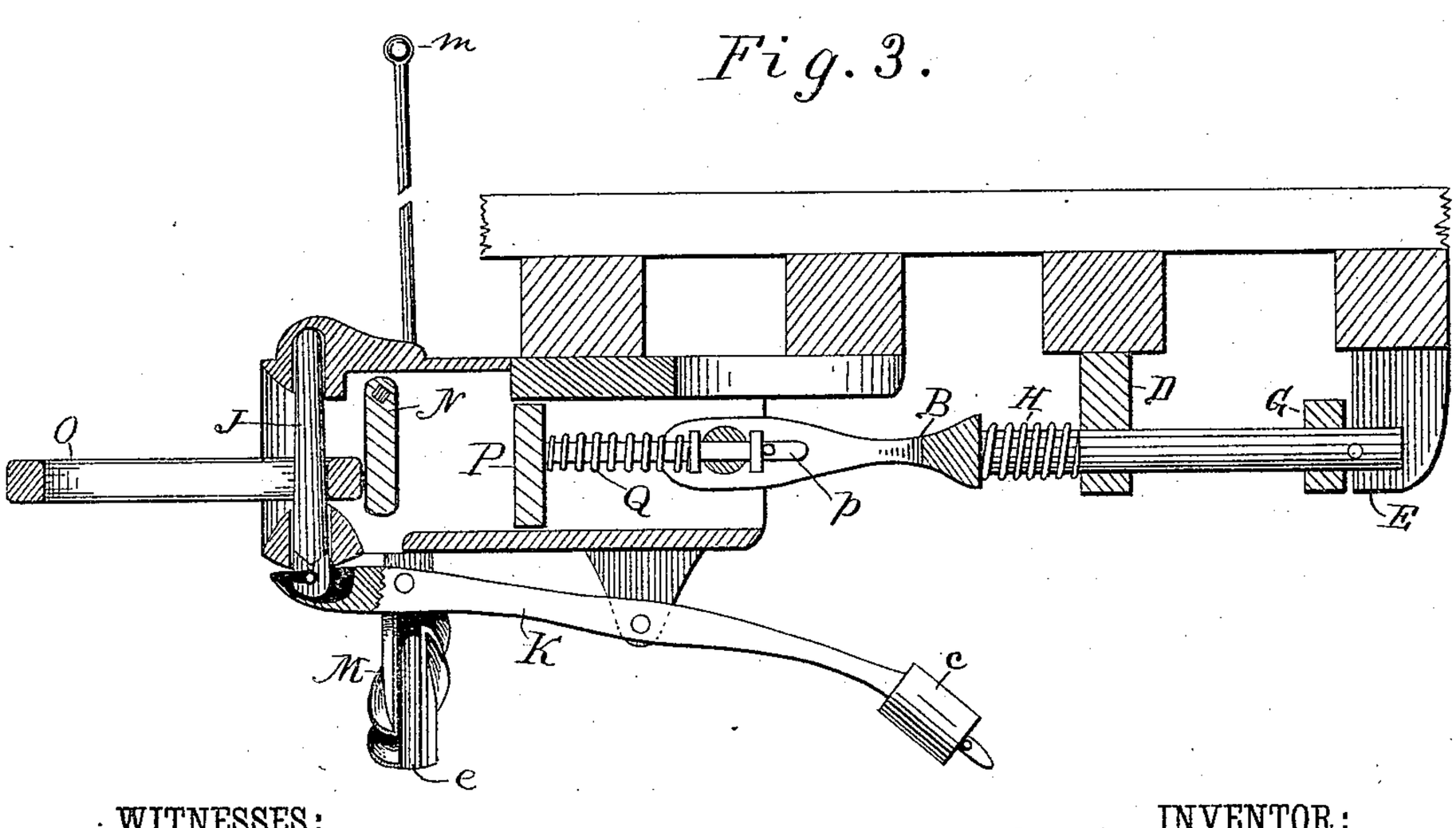


Fig. 3.



WITNESSES:

Thos. Houghton.

W. X. Stevens.

INVENTOR:

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BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

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No. 304,191. Patented Aug. 26, 1884.

Fig. 2.

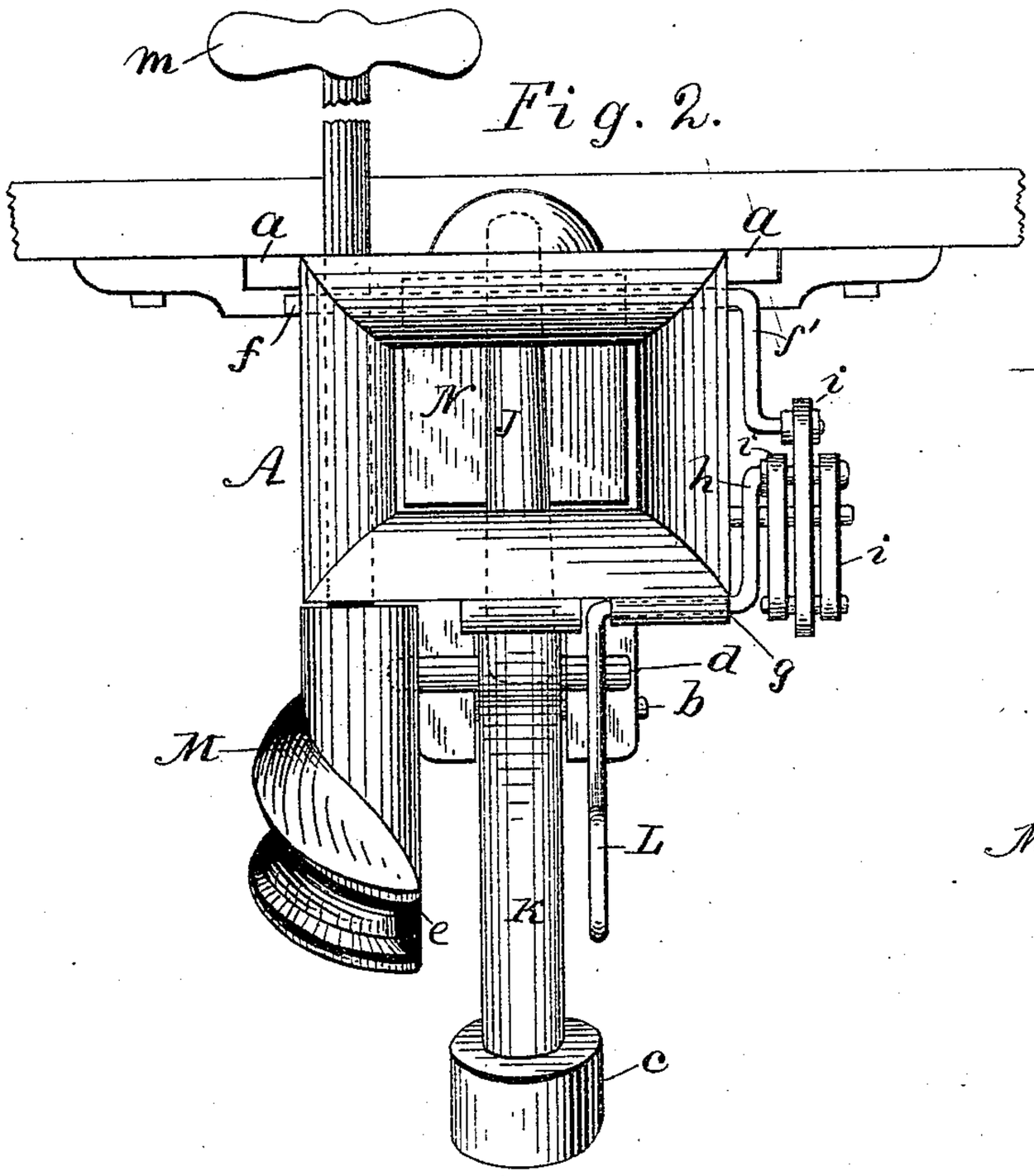


Fig. 4.

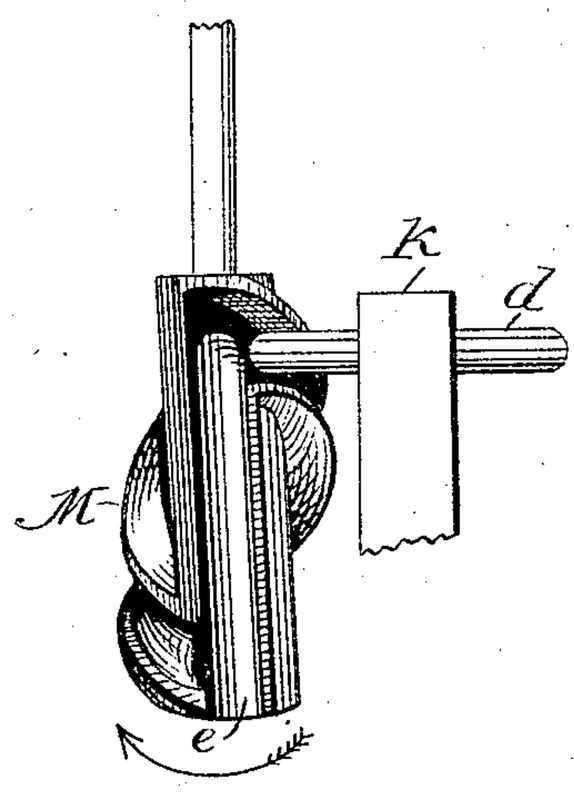
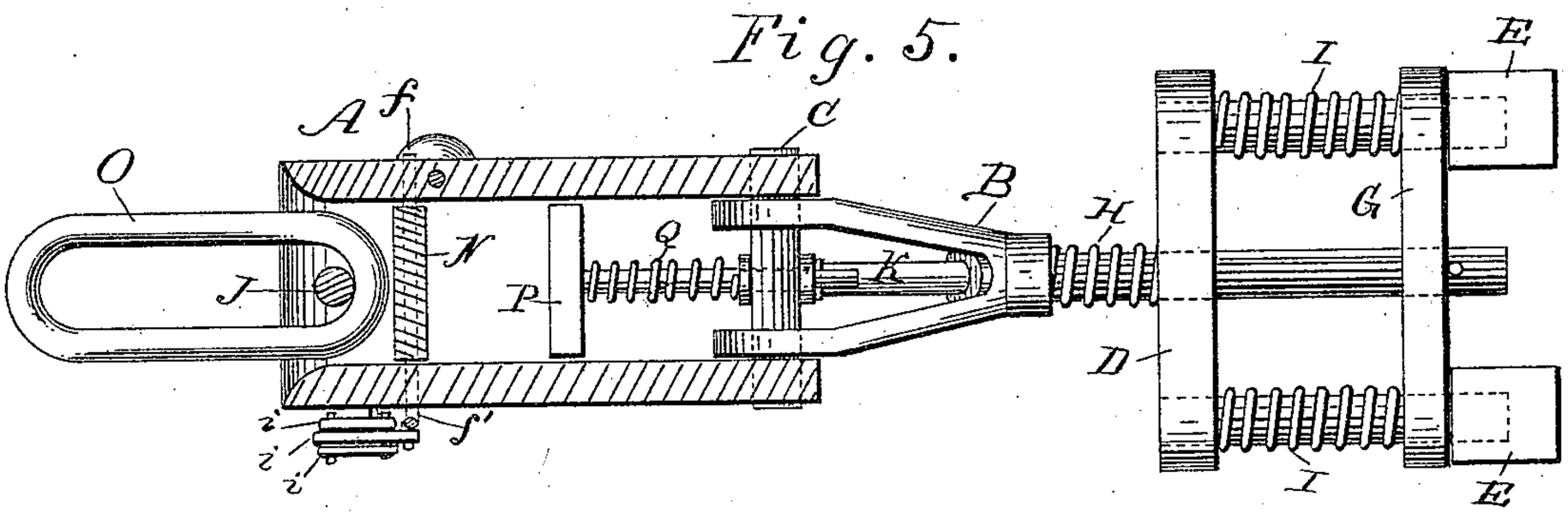


Fig. 5.



WITNESSES:

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INVENTOR:

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

FERDINAND P. FISHER, OF NUMIDIA, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 304,191, dated August 26, 1884.

Application filed May 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND P. FISHER, a citizen of the United States, residing at Numidia, in the county of Columbia and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings, of which the following is a description.

This invention relates to that class of car-couplings which are designed to couple automatically when two cars meet; and it has for its object to receive and catch the common link whether carried by one of my draw-heads or by the common draw-head; to guard the link against being broken in case it does not enter the opposite head; to mechanically uncouple two cars, and in so doing to prepare the coupler to automatically couple with another car.

To this end my invention consists in the construction and combination of parts forming a car-coupling hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a car draw-head according to my invention. Fig. 2 is a front end view of the same. Fig. 3 is a central longitudinal vertical section. Fig. 4 is a detail in elevation, and Fig. 5 is a horizontal section at *x x* of Fig. 1.

A represents the draw-head which is mounted on the car by means of ribs *a*, permitting the head to slide endwise.

B is the draw-bar bifurcated at its forward end and connected with the draw-head by a shaft, C.

D is a cross-head rigidly secured to the car.

E E are blocks rigidly secured to the car, and F F are parallel bars on which another cross-head, G, is fitted to slide. The draw-bar B is fitted to slide in head D, and the cross-head G is fixed to the draw-bar B. Thus the draw-bar has three guides—the head D and the bars F. H is a spring resisting the thrust of the draw-head when cars bump together, and I I are springs against which the head draws in drawing the car.

J is the shackle-pin pivoted to stand in the lever K, which is pivoted to the draw-head at *b*, and provided with a balance-weight, *c*, and with a cross-pin, *d*. The latter is engaged at one end to be held down by a latch, L, and at the other end to be put down by a spiral cam, M, having a straight vertical return-groove, *e*.

N is a door swinging of its own weight on a horizontal hinge-pin, *f*, to nearly close the mouth of the draw-head. The pin *f* fits the door N by a square body to swing therewith, and is bent at one end into a crank, *f'*. The latch L is pivoted to the draw-head at *g*, and its pivot turning with it is provided with a crank, *h*. The cranks *h* and *f'* are connected by weighted links *i* in such a manner that the latch is thrown into engagement with pin *d*, and the door is assisted in its effort to maintain a vertical position by the weight of the links, and the swinging of the door operates the latch. The common shackle or link O, being pushed into the mouth of the draw-head, strikes and pushes back the door N, which, by means of the crank *f'*, links *i*, and crank *h*, moves the latch L to disengage the pin *d*, leaving the weighted lever K free to thrust the shackle-pin J up through the link O. To unshackle the cars, the tension of the train on the link must be slackened as usual. Then the cam M is to be turned by means of the handle *m*, forcing the lever K down, thereby withdrawing the shackle-pin and leaving the shackle free. The latch L is of such form in its groove that when the pin *d* is moved down below the hook *j* of the latch it forces the latch back, bringing the said shoulder over the pin. This occurs when the opposite end of the pin arrives at the lower end of the spiral of cam M, and when the vertical groove *e* of the cam arrives over the pin the latter quickly rises a little into the said vertical part of the cam-groove by action of the weighted lever K until its opposite end is caught and held by the latch-hook. In this position the pin will be held until again required for use. To remove the shackle-pin from the car, press the lever K down somewhat lower than the cam carries it, and the top end of the pin will be free to swing forward, so that its lower end, which is hook-shaped, may unhook from its retaining-pin. P is a buffer having a shank, *p*, passing through the shaft C, and pressed forward continually by a spring, Q. This spring is sufficiently strong to hold the link O forward to engage it with another draw-head when the link en-

ters properly; but when the link fails to enter it would be broken if received against a rigid draw-head. To relieve the link at such times I have provided the buffer and spring just described with sufficient movement to admit the whole length of a shackle into the draw-head.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the draw-head A and shackle-pin J, of the weighted lever K, provided with the pin *d*, and pivoted to the draw-head, of the latch pivoted to the draw-head, and means, substantially as described, for operating said latch, for the purpose specified.

2. The combination, with the draw-head A, the weighted lever K, pivoted thereto, and provided with the pin *d*, the shackle-pin J, adapted to stand in the lever K, and the latch L, pivoted to the draw-head, of the door N, pivoted at its upper edge within the mouth of the draw-head, and means, substantially as described, connecting the door N with the latch L, as and for the purpose specified.

3. The combination, with the door N, pivoted at its upper edge within the mouth of the draw-head, the pivot *f* therefor having the crank *f'*, the latch L, pivoted to the draw-head, and having the crank *h*, of the weighted links *i*, connecting cranks *h* and *f'*, as and for the purpose specified.

4. The combination, with the draw-head A, the weighted lever K, pivoted thereto, and provided with a pin, *d*, and the shackle-pin J, adapted to stand in the lever K, of the cam M, having a spiral groove connected at its two ends by a vertical groove, *e*, as and for the purpose set forth.

FERDINAND P. FISHER.

Witnesses:
PETER SWANK,
JOSEPH R. RHODES.