

No. 619,931.

Patented Feb. 21, 1899.

S. BÄNDEL.
AUTOMATIC RAILWAY COUPLING.

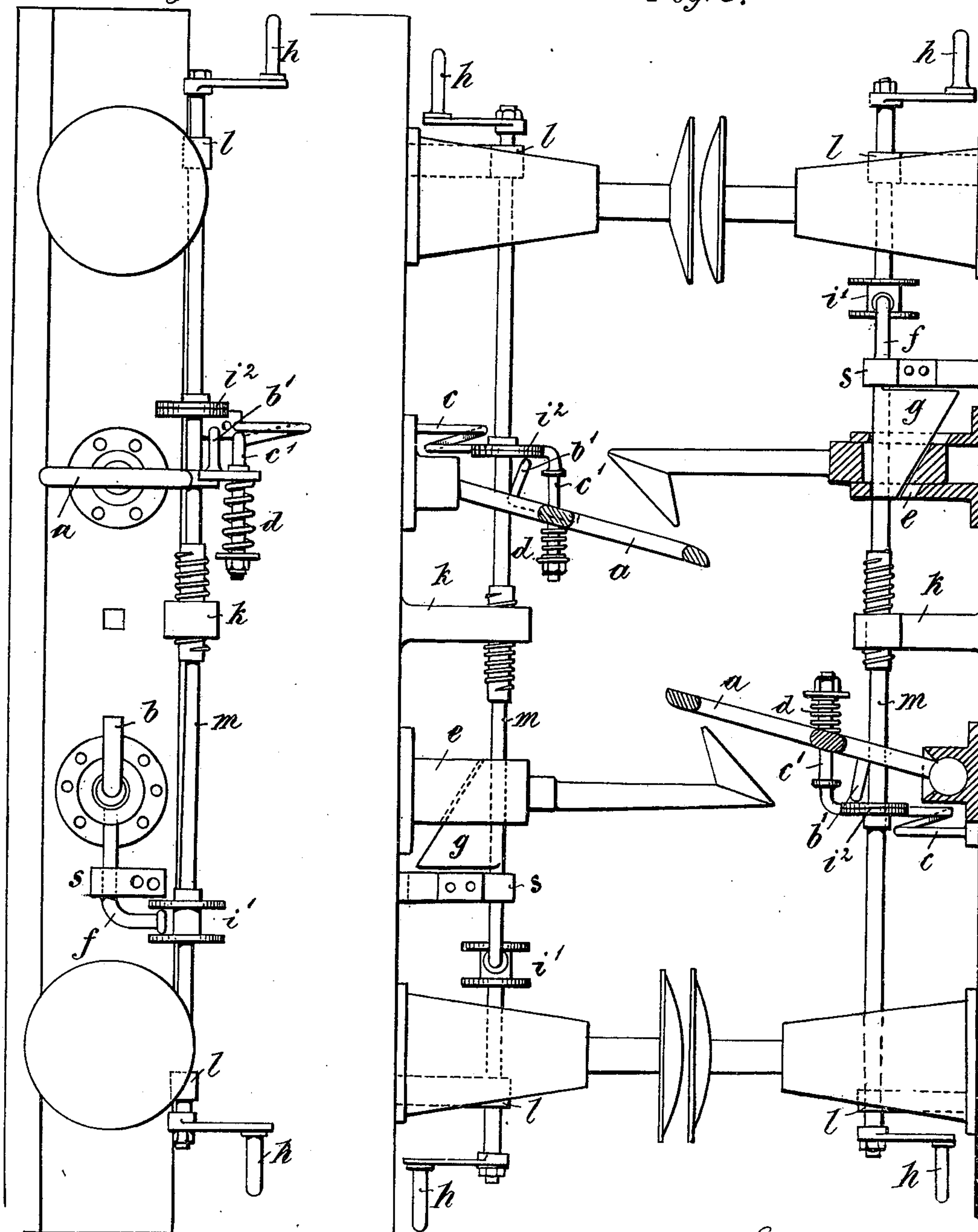
(Application filed Aug. 13, 1898.)

(No Model.)

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Fig. 1.

Fig. 3.



Witnesses:
James Mansfield.
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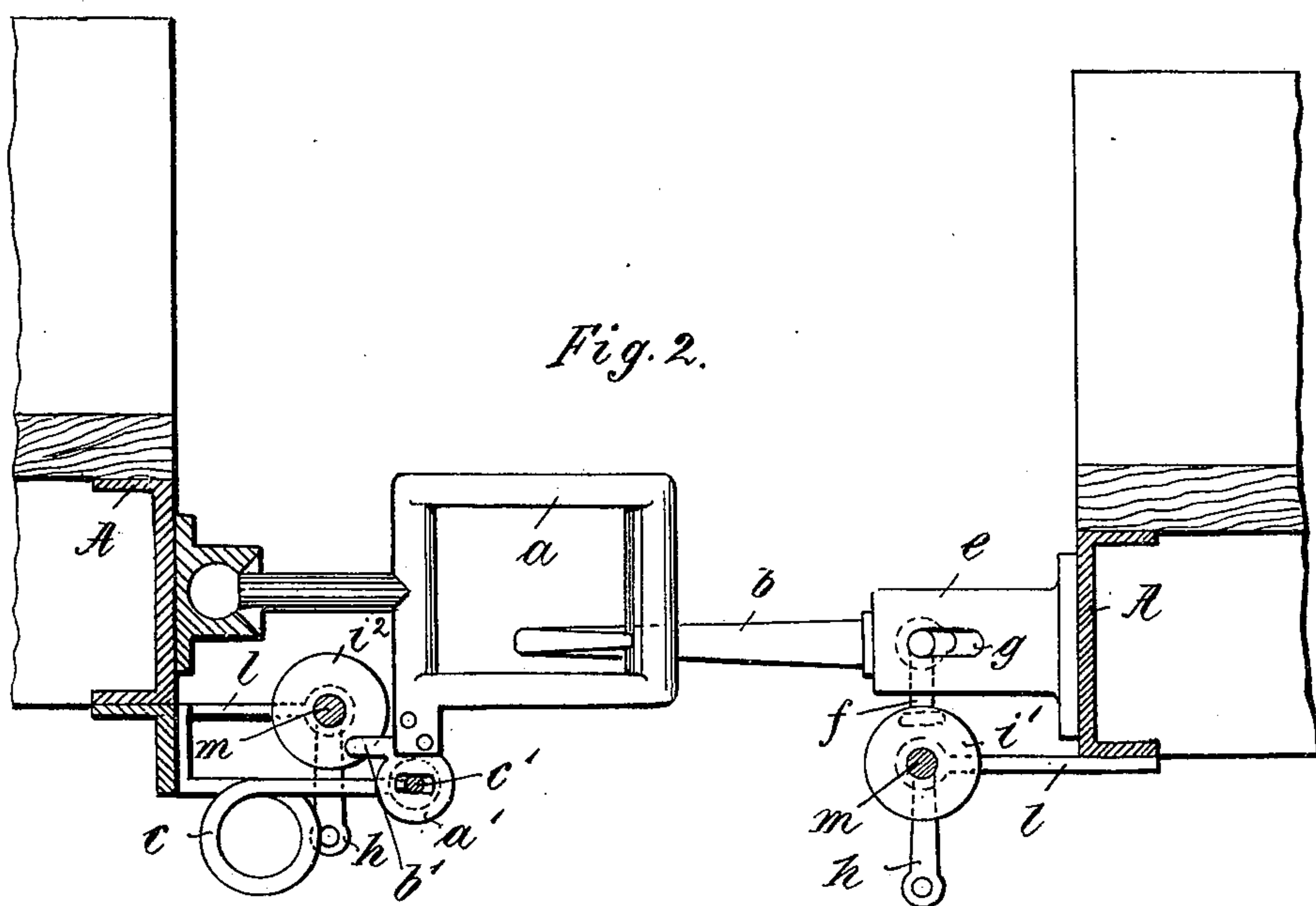
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2 Sheets—Sheet 2



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UNITED STATES PATENT OFFICE.

SAMUEL BÄNDEL, OF KÖNIGSHÜTTE, GERMANY.

AUTOMATIC RAILWAY-COUPLING.

SPECIFICATION forming part of Letters Patent No. 619,931, dated February 21, 1899.

Application filed August 13, 1898. Serial No. 688,499. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL BÄNDEL, a subject of the King of Prussia, German Emperor, residing at Königshütte, in the Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Automatic Couplings for Railway-Vehicles, (for which I have applied for patents in Austria, dated July 12, 1898; in France, dated June 25, 1898, and in Belgium, dated June 23, 1898,) of which the following is a specification.

This invention is an improvement in automatic car-couplings of the hook-and-link class, and also in devices for enabling the uncoupling to be effected from the side of the car.

The invention provides a certain and secure coupling, while allowing free movement of the connection between the cars during the journey and also permits of the uncoupling being effected quickly and easily.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the coupling in its normal position. Fig. 2 is a side elevation of two couplings coupled together, one being attached to an empty car, while the other is attached to a loaded car. Fig. 3 is a plan of two couplings, partly in section, after they have been uncoupled.

The couplings consist of the draw-links *a* and the draw-hook *b*, which are arranged, respectively, at the right and left hand sides of the car at each end thereof.

The rectangular form of the draw-link *a* is determined, first, by the difference in the heights of the buffer-centers of two unequally-loaded cars which are to be coupled together, and, second, by the compression of the buffers of the cars. The said link *a* is secured by means of a ball-and-socket joint *a*² to the buffer-beam. Similarly attached to the buffer-beam and situated under the link *a* there is provided a strong spring-support *c*, which is capable of yielding spring-like in all directions and is provided with end pins *c*', that are horizontal and parallel to the buffer-beam and which carry the compression-spring *d*. This support *c* and pins *c*' keep the link *a* in a horizontal position by means of a lug *a*' thereon, which slides on the pin *c*', while the compression-springs *d* hold the link *a* in

its normal position—that is to say, in a direction at right angles to the buffer-beam.

The draw-hook *b* is formed with a nose-shaped head *b*', and its shank is slipped into a sleeve *c*, fixed to the buffer-beam, and held fast therein by means of a wedge *g*, that is provided with a guiding-arm *f*, bent down a little at its end, as in Figs. 1 and 2. Along the buffer-beam there is arranged a rod or spindle *m*, which is formed in the center with a screw-thread *m*' and is provided at its ends with crank-handles *h* and with intermediate disks *i*' and *i*². This spindle *m* is movable in a screw-bearing *k* and two like bearings *l*. One of the pairs of disks *i*, mounted on the rod *m*, receive between them the downwardly-bent end *f* of the wedge *g*. Opposite the other disk *i*³ there is arranged a tappet *b*', which is fixed to the lug *a*' of the draw-link *a*.

In coupling, the draw-link *a* of one car strikes against the inclined nose *b*' of the oppositely-situated draw-hook *b* of the other car and by compressing spring *d* moves it aside until after the buffers meet, whereupon the link snaps into the draw-hook. The uncoupling is effected by rotating the screw-spindles *m* of both cars simultaneously in opposite directions until the backs of the wedges *g* are pressed against the fixed guide-brackets *s*, the wedges being moved by means of disks *i*'. In this operation first the wedges *g*, which hold the draw-hooks fast, become loosened by the movement of disks *i*', thus enabling the links *a* to be deflected, whereupon by continued further movement of spindles *m* the other disks *i* contact tappets *b*'. Then both disks *i*' and *i*² act together, so as to disengage the links from the hooks. The coupling devices are brought again into their original normal position by rotating the screw-spindles *m* of both cars simultaneously or successively in a direction opposite to the direction of the previous rotation until the wedges of the draw-hooks are again made fast—that is to say, fill up the wedge-opening—and thus render further rotation impossible.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a car-coupler, the combination of the swinging link and the spring for holding it at right angles to the buffer-beam, and means

for compressing the spring and swinging the link to one side; with the opposite hook adapted to engage said link, and means for longitudinally moving said hook at right angles to the buffer-beam to which it is attached, and for locking it in said position, substantially as and for the purpose described.

2. A coupling for railway-vehicles, comprising a draw-link attached by means of a ball-joint to the buffer-beam and held suspended by means of a spring-support which is capable of flexure or yielding in all directions, and a draw-hook which is capable of being moved at right angles to the buffer-beam, for the purpose and substantially as described.

3. A coupling for railway-vehicles, comprising a swinging draw-link attached by means of a ball-joint to the buffer-beam and held suspended by means of a spring-support which is capable of flexure or yielding in all directions, a spring for holding the link at right angles to the buffer-beam, and a draw-hook which is capable of being moved at right angles to the buffer-beam to which it is attached and means for adjusting and locking said hook, all substantially as and for the purpose described.

4. In a car-coupler, the combination of the

swinging link and the longitudinally-movable hook attached to the same buffer-beam, means for holding said link at right angles to the buffer-beam, and means for moving said hook longitudinally at right angles to the buffer-beam; with a spindle and connections substantially as described whereby the movements of the link and hook are controlled, for the purpose and substantially as described.

5. In a car-coupler, the combination of the swinging link and the longitudinally-movable hook attached to the same buffer-beam, a spring for holding said link at right angles to the buffer-beam, and a wedge for moving said hook longitudinally at right angles to the buffer-beam; with a spindle and connections substantially as described whereby the movement of said spindle operates the wedge and compresses the spring so as to disengage the link and hook from the hook and link on the opposite car, for the purpose and substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

SAMUEL BÄNDEL.

Witnesses:

CONSTANTIN KLINIK,
CARL WEBER.