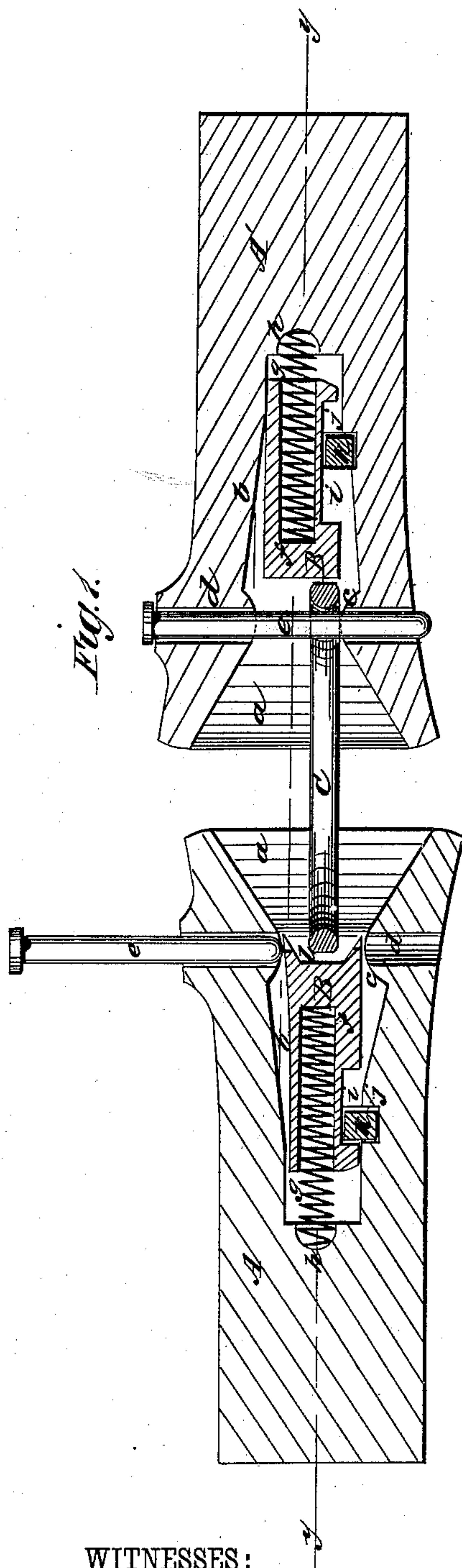


J. F. RAKES.  
Car-Coupling.

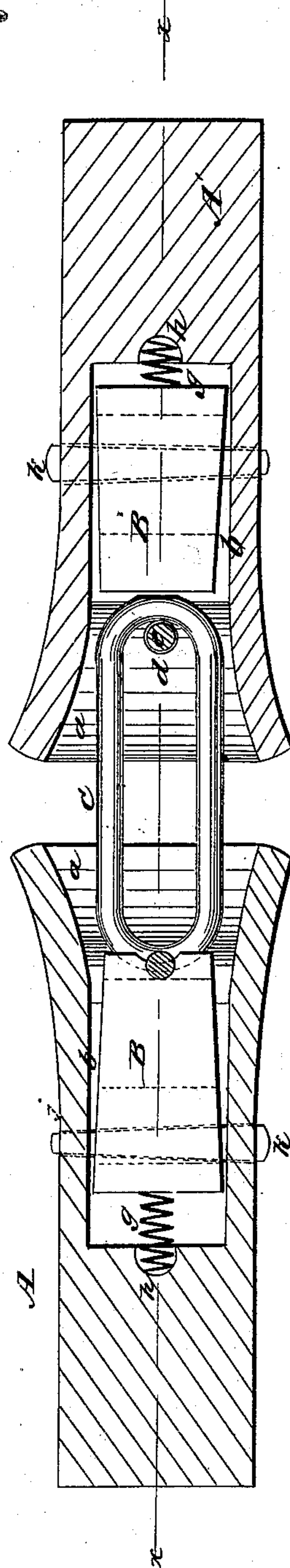
No. 219,017.

Patented Aug. 26, 1879.



WITNESSES:  
*Francis M. Arnold.*  
*C. Sedgwick*

*Fig. 2.*



INVENTOR:  
*J. F. Rakes*  
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ATTORNEYS.



# UNITED STATES PATENT OFFICE.

JOHN F. RAKES, OF GREENUP COUNTY, KENTUCKY.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **219,017**, dated August 26, 1879; application filed February 18, 1879.

*To all whom it may concern:*

Be it known that I, JOHN F. RAKES, of Greenup county, in the State of Kentucky, have invented a new and Improved Car-Coupling, of which the following is a specification.

This invention relates to improvements in automatic car-couplings; and the object thereof is to furnish means for holding the link and pin in position to immediately and surely engage each other when the cars are moved up in position to be coupled.

I use the draw-heads with a socket extended some distance back of the bell-mouth, in which is placed a block held by a key and engaged by a spiral spring, that thrusts it forward under the pin-hole and over a rib made in the bottom of the draw-head socket when the link is out of the draw-head and the pin is withdrawn. When the pin is placed in its hole in the draw-head its end rests on the spring-block until the link enters the socket and, striking the block, pushes it back and allows the pin to fall and catch the link; and when the link is in the draw-head the pressure of the spring-block and the rib together hold it in a horizontal position.

In the accompanying drawings, Figure 1 is a vertical and longitudinal section on line *x x* of Fig. 2 of my improved car-coupling, and Fig. 2 is a horizontal longitudinal section on line *y y* of Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A A' are the draw-heads, provided with bell-mouths *a a* and sockets *b b*, extending back therefrom. At the point where the socket enlarges into the bell-mouth a transverse rib, *c*, is cast in the draw-head, and at the same point vertical holes *d* are made, extending entirely through, for the link-coupling pins *e*.

B B are the blocks, shaped like a wedge, which are placed in the sockets *b*, with the broader end back in the socket and the narrower end near the mouth, whereby a certain amount of play laterally is allowed them. From the rear end of these blocks circular holes or sockets *f* are made in them, in which a spiral spring, *g*, is incased so as to project

partly therefrom, the projecting end being seated in a socket, *h*, made in the draw-head.

In the under side of the wedge-block a recess, *i*, is made transversely, and through the draw-bar, from side to side, at about the level of the lower side or bottom of the socket, is made a tapering hole, *j*, so as to be just below the recess in the block. Through this hole is passed a key, *k*, when the block is in the socket, so as to cross the recess *i*, and thus retain the blocks in the draw-head, but at the same time allow them a free back-and-forth motion.

The face of the block in draw-head, it will be observed, is squared off even, so as to rest squarely against the squared end of the link C; but the block in draw-head A has a recess, *l*, made in its face, so that the end of the link is held in the recess and its movement limited by the sides thereof. Either of these arrangements may be employed at pleasure. The ends of the links should be squared off, so as to give a square bearing against the face of the block, whereby it is better retained in a horizontal position.

The operation of the invention is as follows: When the link is out of the draw-head the block is held forward by the spring in the position shown in draw-head A, and when the pin is placed in its hole its end rests on the front end of the block, and it is held up as shown in the same draw-head.

Now, to secure the link in the draw-head its end is placed against the face of block B, and pushed so as to force the block back from under the pin, which, dropping, engages the link. When the link is thus placed in the draw-head the block is kept pressed against it by the spring, and this, together with the pin and the rib *c*, holds the link in a horizontal position, so that when the cars are to be coupled the link is in position to enter the draw-head of the coupling car, and there is no necessity of its being held up for the purpose, as in ordinary couplings. Thus the coupling is performed automatically, and the danger usually attending such work is avoided.

The tapering form of the block gives sufficient space at its forward end, between its

sides and those of the draw-head socket, to allow it to move in obedience to the movement of the car, and thus sufficient flexibility is given to the coupling.

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

The combination, with a draw-head having flared mouth *a*, socket *b*, rib *c*, and holes *d*,

of the chambered spring-block *B*, made in wedge form, recessed on the bottom, held by a cross-key, *k*, and having a front recess, *l*, as shown and described.

JOHN FRANKLIN RAKES.

Witnesses:

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JOSIAH G. MERRILL.