

S. N. KEITH.
CAR-COUPLING.

No. 191,060.

Patented May 22, 1877.

FIG. I.

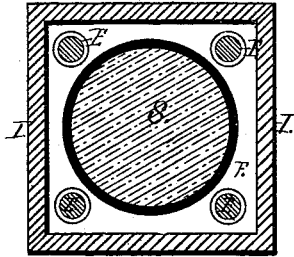


FIG. II.

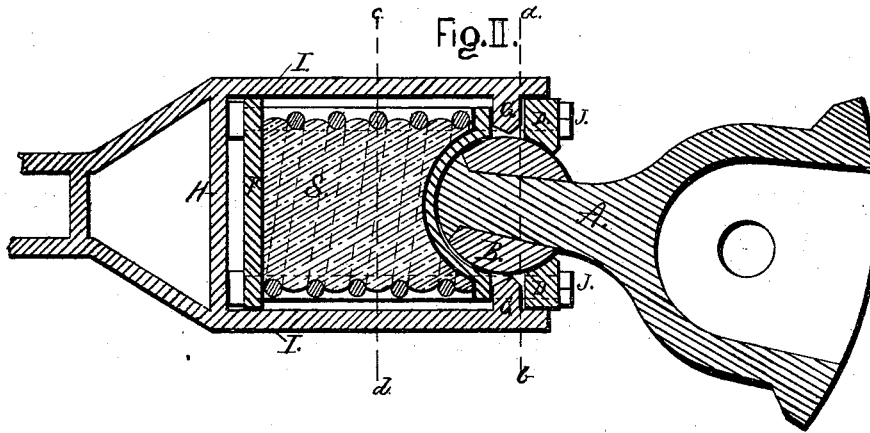
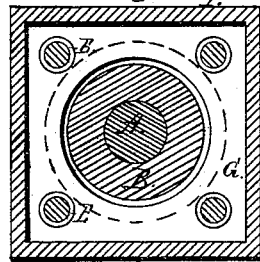


FIG. III.



WITNESSES

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CAR-COUPINGS.

Specification forming part of Letters Patent No. **191,060**, dated May 22, 1877; application filed March 7, 1877.

To all whom it may concern:

Be it known that I, SAMUEL N. KEITH, of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Car Draw-Heads; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a vertical section at *c d* of Fig. 2. Fig. 2 is a horizontal section through the middle. Fig. 3 is a vertical section at *a b* of Fig. 2.

The objects of the invention chiefly are, to absorb and render harmless at the proper point transverse as well as direct blows against or jerks from the car, and to make it easier to couple cars of different heights, or standing at an angle with each other.

A is the face-plate. B is a ball attached to the face-plate, forming, with the cup C and the ring-plate D D, a ball-and-socket joint, resting against the spring S, made wholly or in part of rubber or other suitable material. E E E E are four bolts extending from the plate F to the ring-plate D D. These bolts hold and confine the ball B and the spring S in place.

I I is the outer casing, to which the stops H and G G are fastened. It is a simple rectangular-shaped box firmly attached to the car. It protects and confines the springs and working parts, and makes a frame for them.

The ball B should be well fitted in its cup C and plate D D. The nuts J J should be so adjusted on the bolts E E E E that the spring S will exert sufficient pressure on the ball B to hold the face-plate A in position when at rest.

The spring S works both when pushing and pulling against the stop G. Any blow upon the face-plate A will be transmitted through the ball B to the spring S, which is intended to absorb and neutralize the force of the blow, whether received in a direct or transverse direction. Likewise, by means of the ring-plate D D and bolts E E E E, any jerks upon the face-plate A and ball B will be carried directly to the spring S, and their force be absorbed by it, whether coming from a direct or transverse direction.

By turning the face-plate up or down, or to the right or left, it can be readily coupled with other draw-heads which are higher or lower, or with cars standing on curves or at any angle.

The advantages are, that, before coupling, it is adjustable to different heights, or to other cars standing at an angle, making it self-coupling, and thus diminishing the danger to brakemen. After coupling, it is self-adjusting and elastic, relieving links, pins, yokes or hangers, and the frames of cars, diminishing breakages and increasing the safety of the train. It is simple, cheap, durable, and readily attached to any car.

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

1. The draw-head A, having a spherical extension, B, forming a ball-and-socket joint, seated within the casing of, and bearing against, the spring S, substantially as and for the purpose described.

2. A draw-head having a ball-and-socket connection with a car-frame, to admit of coupling at any angle whatever.

SAMUEL N. KEITH.

Witnesses:

JOSEPH A. MILLER,
AMOS A. WHITE.