J. WIDNEY.

Car Coupling.

No. 43,447. Patented July 5, 1864.

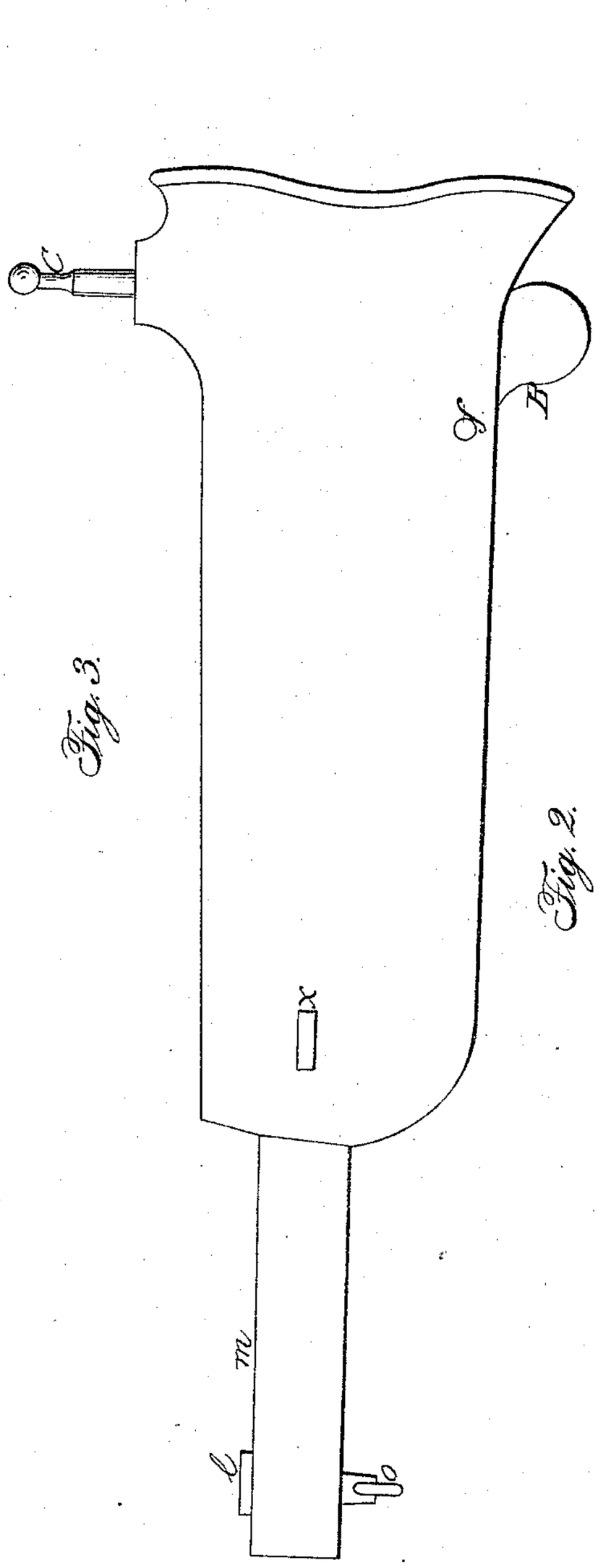

Fig. 3.

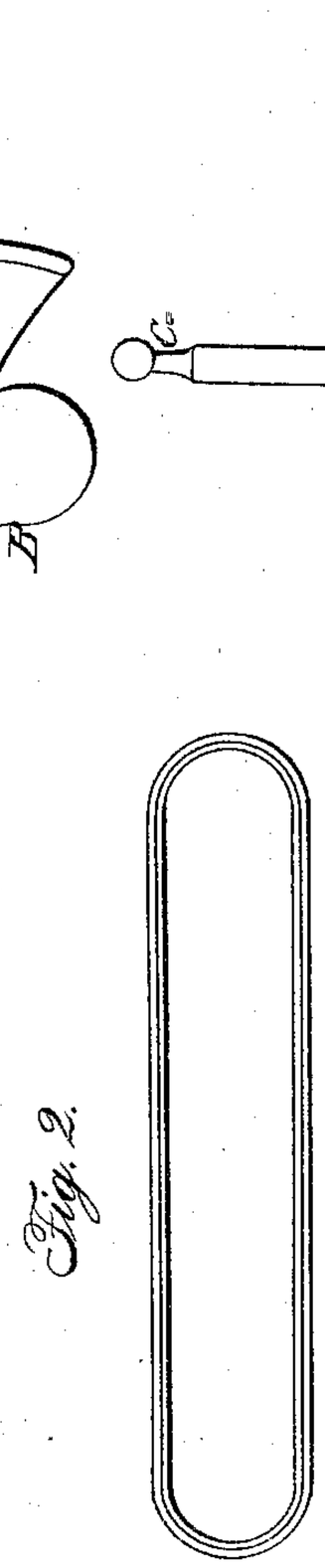

Fig. 2.

Fig. 1.

Witnesses:

James F. Johnston

Wesley Johnston

Inventor:

James Widney

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

JAMES WIDNEY, OF ALLEGHENY CITY, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **43,447**, dated July 5, 1864.

To all whom it may concern:

Be it known that I, JAMES WIDNEY, of Allegheny City, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Couplings for Railroad-Cars; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in furnishing couplings of railroad-cars with a coupling-pin and trigger, and the link chamber with projections to form a curved passage for the coupling link, said pin, trigger, and projections being used in combination with the ordinary coupling-link for the purpose of coupling cars, the whole being constructed, arranged, and operating in the manner hereinafter described.

To enable others skilled in the art of making couplings for railroad-cars to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1 represents a longitudinal section of my improvement in couplings. Fig. 2 represents a top or face view of an ordinary coupling-link which is used in connection with my improvement. Fig. 3 represents a side view of my improved coupling.

In the accompanying drawings, A represents the body of an ordinary coupling or buffer for cars.

E represents the link-chamber, in which I place two projections, *g* and *h*, which forms a curved passage, *i*.

B represents the trigger, which is placed in a notch or recess made in the under side of the coupling A, and is held in its place by means of the pin *f*. The shoulder *p* of the trigger B rests against a corresponding shoulder, *n*, made in the link-chamber E, near the mouth of the coupling. The axis *f* of the trigger B is so arranged with relation to the arm *q* that its weight will hold the shoulder *p* against the shoulder *n*. Forward of the trigger B is a chamber for the coupling-pin C. The diameter of this chamber is made equal to the size of the ball *k* on the lower end of the pin. In the upper end of this pin-chamber is an opening corresponding to the diameter of the pin C and smaller than the ball *k*. This arrangement of the small opening in connection with the chamber and pin will prevent the pin from being drawn out of its chamber, and the end of the arm of trigger B will prevent it from dropping out of its chamber.

m represents the ordinary connecting-bolt of couplings, and is secured to the coupling by means of the key *x*.

l represents a key, which is used for securing the connecting-bolt to the car.

o represents a ring, which is used for holding the key to its place. In adjusting and arranging the various parts of my improved coupling the following order is observed: The link D is placed in the chamber E; then the pin C is placed in its chamber; then the trigger B is put in its place and secured by means of the pin or bolt *f*. When the link is placed in the chamber E, the projection *g* and the upper part of the trigger B project up through the opening of the link. When the link D is placed in the chamber E, as represented in Fig. 1, then the coupling becomes the female coupling. But when the link is drawn out or partly out, as represented by the section of a link marked D′, then the coupling becomes a male coupling. In manufacturing my improved coupling I propose making the body A of the coupling of cast-iron and all the other parts of wrought-iron.

The form, size, and mode of making the various parts of my improved coupling I leave to the taste, skill, and good judgment of the mechanic.

The operation of my improvement is as follows: I draw up the pin C, which will throw back the upper part of the trigger B, and as soon as the ball *k* on the pin passes the beak *j* the trigger will drop back to its place, so that the beak *j* will come under the ball *k* of the pin and hold it in the desired position for coupling. This will form the female coupling. To form the male coupling, I proceed in like manner to draw up the pin C, but in addition thereto I draw out the link D into the position represented by the link marked D′. Now, when the cars come together, the link of the male coupling will strike the trigger of the female coupling and throw back the trigger, which will cause the pin C to drop into or through the link, and thereby complete the coupling process. The projections *g* and *h* are used for the purpose of impeding the

backward motion of the link of the male coupling, so that the link will have sufficient force to move back the trigger B, and thereby drop the pin C, as before stated. It will be observed that the link D of the male coupling may be placed at any desired angle, and that at every angle it will meet with a resistance in receding back, (as clearly shown in Fig. 1 by the link marked D′ D² D³,) and yet not with sufficient resistance to injure the link or coupling.

Having thus described the nature, construction, and operation of my improvement, what I claim as of my invention is—

The combination and arrangement of the projections *g* and *h*, trigger B, and pin C with the ordinary coupling-link, the whole being constructed, combined, arranged, and operating substantially as herein described, and for the purpose set forth.

JAMES WIDNEY.

Witnesses:

JAMES J. JOHNSTON,

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