

E. T. BARLOW.
Car-Coupling.

No. 226,824.

Patented April 27, 1880.

Fig. 1

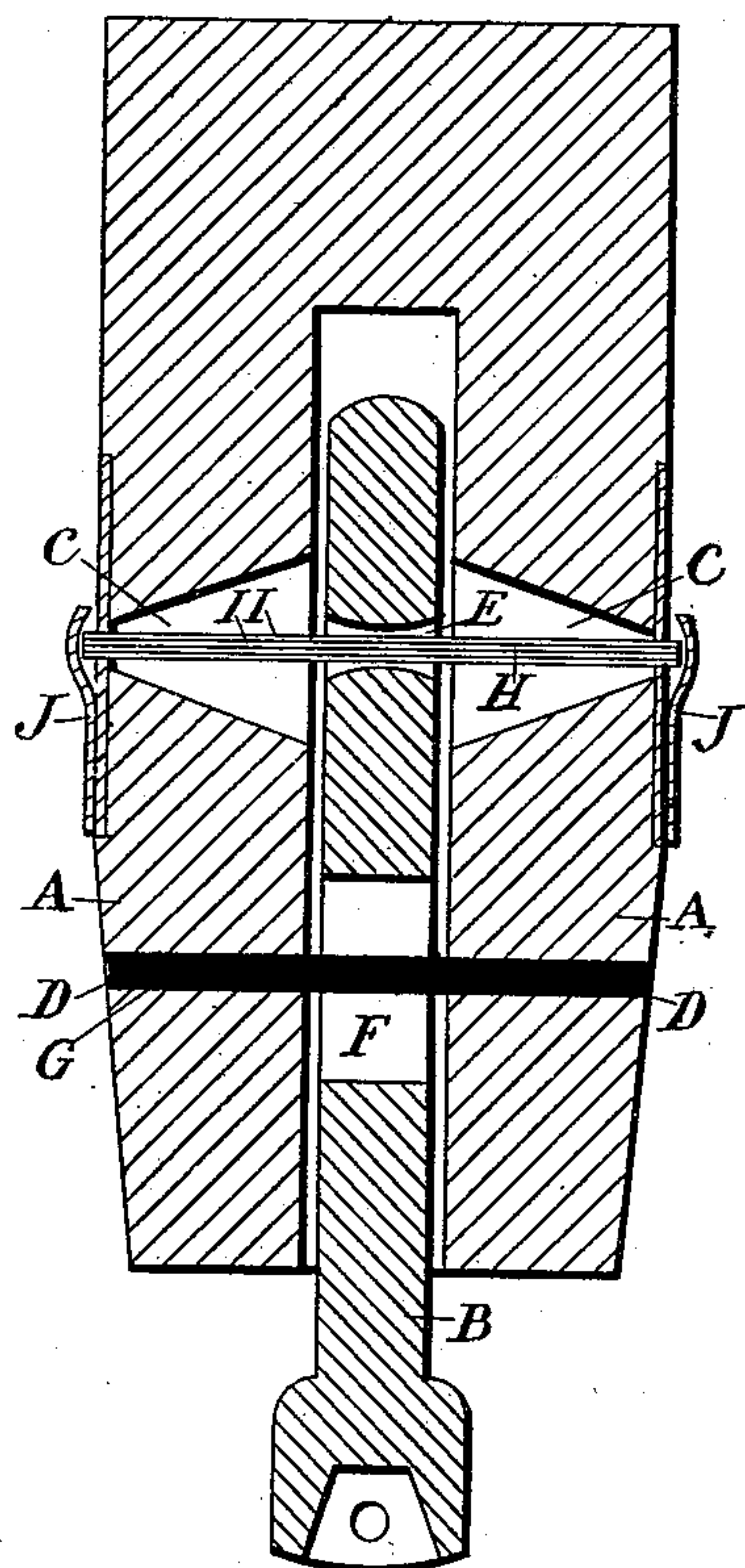
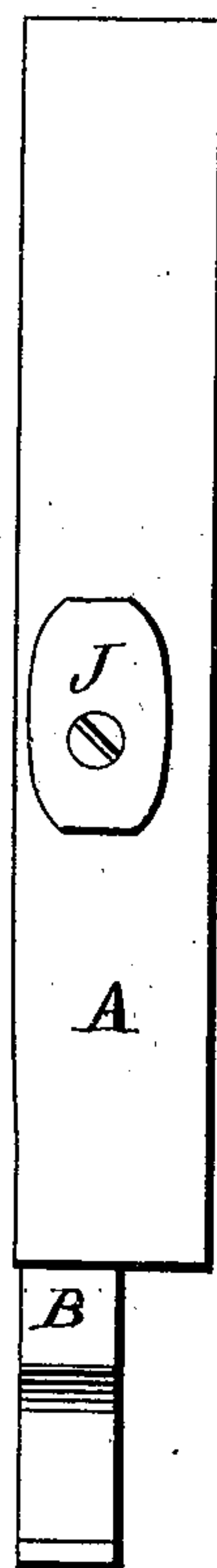


Fig. 2



Witnesses
D. B. Lawler.
Will B. Schwartz.

Inventor
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UNITED STATES PATENT OFFICE.

ELISHA T. BARLOW, OF SAN FRANCISCO, ASSIGNOR TO SUSAN BARLOW AND HELEN M. HITCHCOCK, OF SAME PLACE, AND FREDERICK W. TOMPKINS, OF OAKLAND, CALIFORNIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 226,824, dated April 27, 1880.

Application filed February 14, 1880.

To all whom it may concern:

Be it known that I, ELISHA T. BARLOW, of the city and county of San Francisco, and State of California, have invented an Improved
5 Draft-Connection for Draw-Bars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the drawings accompanying this specification and forming a part of the same.

10 My invention has reference to a novel arrangement for connecting draw-bars with vehicles and other bodies; and it consists in the employment of two separate and independent attachments, one of which is elastic,
15 while the other is rigid and unyielding, and in so arranging them that the pull comes first upon the elastic device until it has yielded to a certain point, when the supplemental or unyielding device is brought into action.

20 I have in the present instance represented my invention as applied for connecting the draw-head of a railway-car with the car body or truck, for which purpose it is peculiarly adapted; but it can be used in all places where
25 it is desirable to relieve the initial strain of a pull.

My invention also includes a new and improved style of spring which is adapted for this purpose.

30 Referring to the accompanying drawings, Figure 1 is a horizontal section. Fig. 2 is a side view.

A A represent the two parallel timbers of a railway-car body, between which the draw-
35 head B is secured.

Horizontally through both of the timbers A, and opposite each other, I make two holes, C and D, one in advance of the other; and in the draw-bar B, I also make two holes, E and
40 F, so that when the bar B is placed between the timbers A A the holes E and F will come in line with the holes C D. I then drive a pin or bolt, G, through the holes D in the timbers and hole F of the draw-bar. The hole F is elongated, so that the draw-bar can move end-
45 wise the length of the hole, as shown.

Through the holes C of the timbers A, I place a straight piece of steel or other elastic material, H, so that it will also pass through

the hole E in the draw-bar and serve as a 50 spring to take the initial pull upon the bar. The best spring for this purpose consists of several straight pieces or plates of steel, I I, placed side by side, as represented, and set on edge, so that the pull upon the bar will come 55 upon the middle of the spring and cause it to bend until the pin or bolt strikes the end of the hole F.

This spring I claim is entirely new for this purpose, and that it possesses advantages and 60 qualities possessed by no other spring, as hereinafter recited.

The ends of this spring or series of spring-plates are supported in the holes in the timbers A, while the middle passes through the 65 hole E in the draw-bar, between the timbers A.

The hole E in the draw-bar should be flared on each side, or narrowed at its middle, as shown, so as to give the plates a chance to spring in both directions, and it is better to 70 widen the inner portion of the holes in the timbers A. This allows the series of spring-plates to yield freely to the strain on the middle in either direction. The slotted hole F in the draw-bar is long enough to allow the re- 75 quired amount of motion for the spring before its end strikes the pin or bolt G.

The plates which form the spring are placed loosely through the holes, side by side, with- 80 out any connection whatever, so that each plate acts independently of the others.

A button, J, or other device is secured over the outside of the holes, across the ends of the plates, to prevent them from coming out or becoming displaced. 85

The spring can be placed in advance of the pin, or the pin in advance of the spring, as preferred. In either case the result will be the same.

If the spring should prove to be too weak, 90 additional plates can be inserted until the required stiffness is obtained, or if it is too rigid some of the plates can be withdrawn. It is therefore easily adapted to any desired tension or pull. It is extremely cheap, consist- 95 ing, as it does, of simple straight steel plates.

A spring thus constructed will not lose its elasticity, like an ordinary steel spring, or if

the plates should become set in one direction they can easily be turned around so as to spring in the opposite direction.

By this combination I can not only regulate
5 the tension of the spring itself, but I can regulate the amount of spring or longitudinal motion which it is desired to communicate to the draw-bar for any given load as circumstances may require. This is done by making
10 the slotted hole F, in which the pin moves, shorter or longer, so as to stop the action of the spring at the desired point.

This arrangement is also adapted for link-connections where two bodies are to be linked
15 together, and it will be found useful in many other places.

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

20 1. A compound draw-bar attachment con-

sisting of the rigid pin or bolt G, passing through the slot or elongated opening F in the draw-bar, in combination with the spring H, composed of steel strips I, which is arranged to receive the first pull upon the draw-
25 bar and yield until the pin or bolt strikes the end of the slot, substantially as above specified.

2. The improved spring above described, consisting of two or more thin steel plates, H,
30 placed side by side and having the ends supported in timbers A A, while the power is applied to the middle, substantially as and for the purpose described.

In witness whereof I have hereunto set my
35 hand and seal.

E. T. BARLOW. [L. S.]

Witnesses:

F. W. TOMPKINS,

GEO. B. HITCHCOCK.