E. R. Bigelow.

Car-Coupling.

No. 72717 Patented Dec. 31, 1867

Fig: 1.

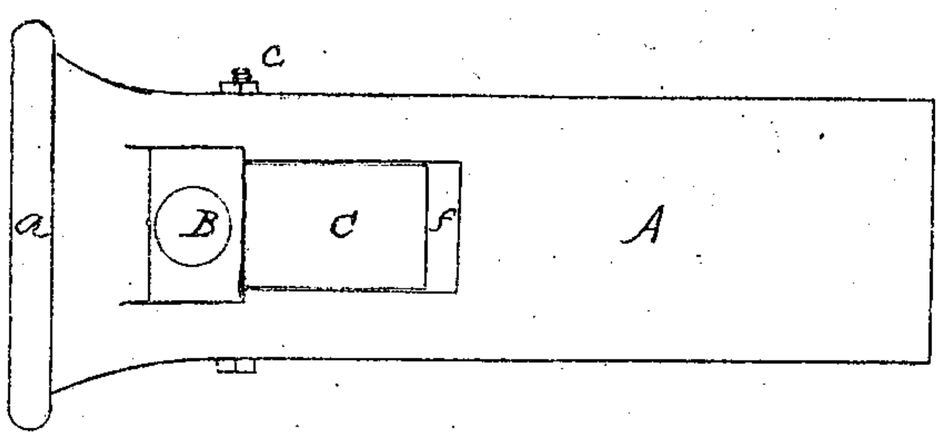
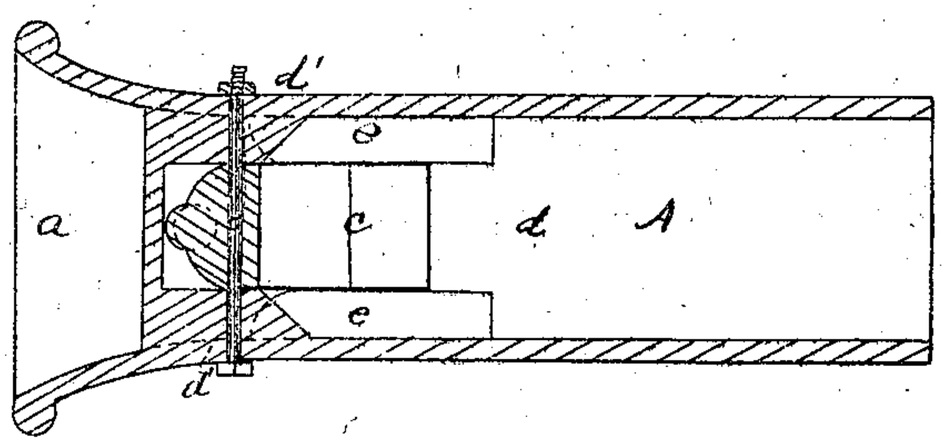


Fig: 4



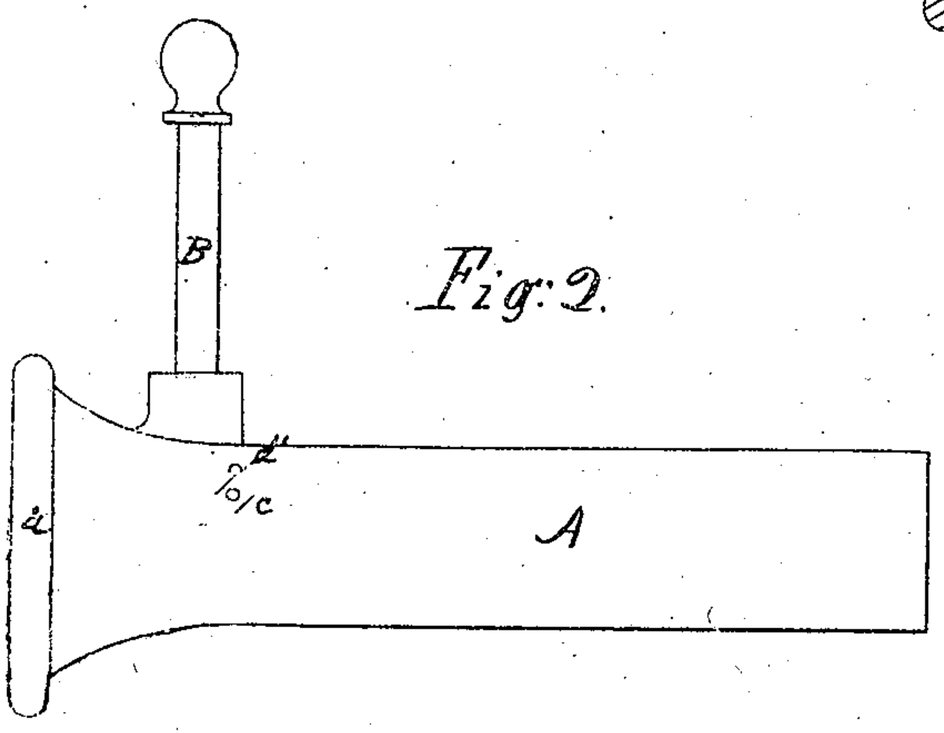
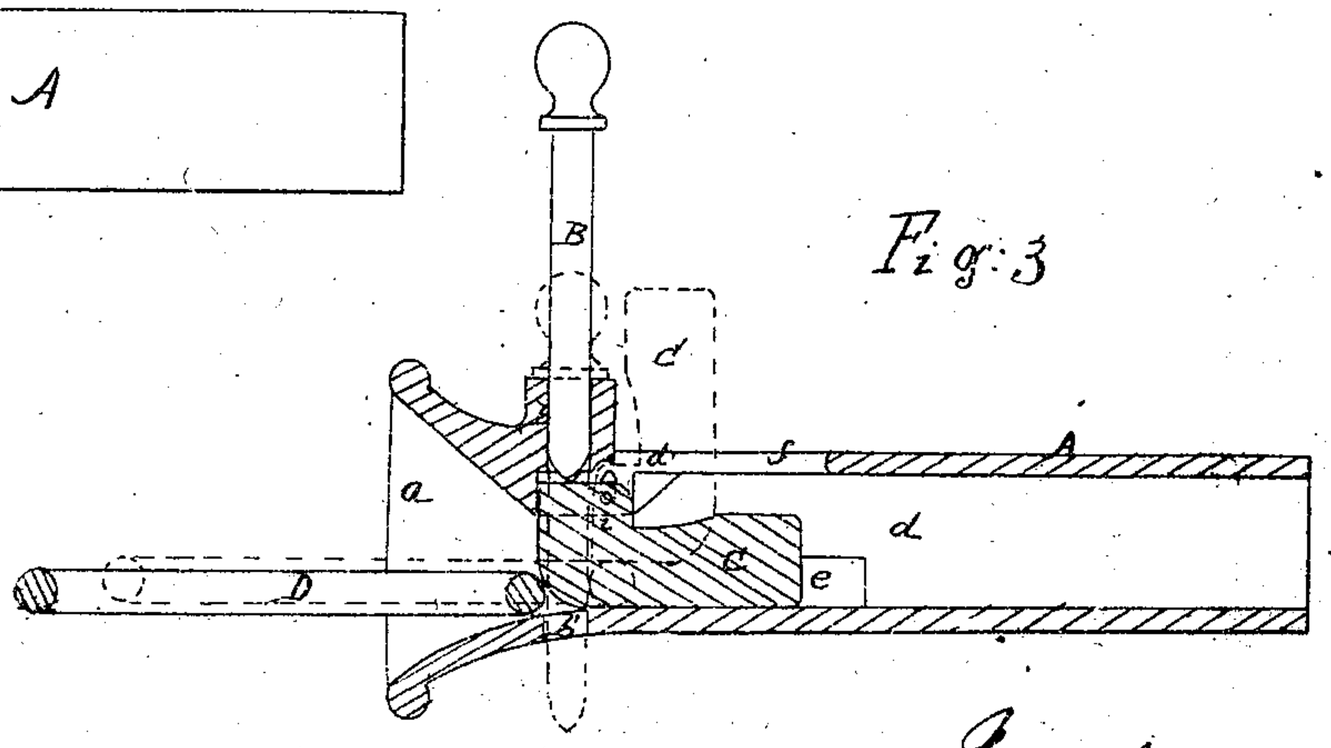


Fig: 2.

Fig: 3



Witnesses

F. P. Hale Jr.

S. N. Piper.

Inventor.

E. R. Bigelow.

by his attorney.

R. H. Eddy

United States Patent Office.

EDWIN R. BIGELOW, OF SALEM, MASSACHUSETTS.

Letters Patent No. 72,717, *dated December* 31, 1867.

IMPROVED CAR-COUPLING.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL PERSONS TO WHOM THESE PRESENTS MAY COME:

Be it known that I, EDWIN R. BIGELOW, of Salem, in the county of Essex, and State of Massachusetts, have invented an Improved Railway-Carriage Coupling; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view,

Figure 2 a side elevation,

Figure 3 a vertical and longitudinal section of a draw-bar provided with my said coupling, and

Figure 4 a horizontal and longitudinal section of the same.

In such drawings, A denotes the draw-bar provided with a flaring or trumpet mouth, *a*, and with a hole, *b b'*, the latter being for the reception of the link-connection pin B. Within the chamber *d* of the draw-bar is a heavy bent lever or tumbler, C, through the upper part of which a rod, *c*, is carried, such rod being extended through vertical slots, *d'*, made in the opposite sides of the draw-bar. The tumbler C is arranged between two stops or abutments *e e* projecting from opposite sides of the chamber *d* of the draw-bar, they being arranged therein in manner as represented. In rear of the pin-passage, and through the upper part of the draw-bar, is an opening or passage, *f*, to enable the tumbler to rise or be thrown into the position as exhibited at C' by dotted lines. When the tumbler is in a horizontal position, and down upon the bottom of the chamber *d*, the pin B (in the holes *b*) will rest on the top of the tumbler. When the link D is being driven into the draw-bar it will strike against the tumbler and throw it up into the position indicated by the dotted lines, so as to force it away from underneath the pin B, and allow the said pin, by its gravity, to fall down into the link and the hole *b'*, and so as to connect the link to the draw-bar. The end of the link will bring up against the abutments, by which, and the pin and tumbler, the link will be held horizontal, or thereabouts, particularly while the link is being driven into another draw-bar for being coupled thereto.

From the above it will be observed that the tumbler, while being thrown up by the link, will not only revolve on its fulcrum, but both it and the fulcrum-rod will be raised vertically, so as to enable the link to pass underneath the tumbler. Thus, in its movement, caused by the link, the tumbler has a compound motion imparted to it, composed of a vertical motion and a rotary one, such being highly favorable for the movement of the tumbler from underneath the pin and backward with the link, so that the latter may pass under the tumbler. On removing the link from the draw-bar, the tumbler, owing to the weight of its longer arm, will fall down upon the bottom of the chamber *d*.

I am aware that it is not new to apply a tumbler to a draw-bar and its pin-passage, and therefore I make no claim thereto. When a tumbler has been so applied, it generally, when in operation, has turned on a centre or axis with a circular motion only, and never with a compound motion, consisting of such a circular motion and a vertical motion, such as the tumbler of my improved car-coupling has while either rising or falling. Furthermore, it will be seen that the axis of motion of my tumbler is arranged a little below the part on which the pin is supported when the tumbler is in its lowest position, and that the tumbler, while rising, passes up through the passage *f*, and extends out of and above the draw-bar in manner as represented by dotted lines in fig. 3; also, that the tumbler, while supporting the pin, rests flatly upon the bottom of the chamber *d*, so as to prevent the pin from accidentally falling away from the tumbler.

The above-described compound motion of the tumbler is to enable the front end of the tumbler to rise on the link while the tumbler is being revolved by the link. The slots *d'* allow the tumbler to adjust itself to and fall upon the link, whatever may be its thickness, as links, as commonly used, vary in their thickness.

My tumbler is not arranged in the flaring mouth of the draw-bar, but in a chamber, *d*, disposed in rear thereof, the tumbler, while rising, passing up through the top of such chamber.

What I claim as my invention or improvement, is—

The arrangement and combination of the opening *f* in the top of the draw-bar chamber with the tumbler, made substantially in manner, and arranged in rear of the mouth of the draw-bar, and applied thereto, so as to operate with a compound motion, as specified.

I also claim the arrangement of the journals or pin *c* of the tumbler, so as to be below that part of the tumbler which supports the pin when the tumbler is in its lowest position, in combination with vertical slots *d'* made in the sides of the chamber *d* of the draw-bar, the tumbler being formed substantially as represented.

I also claim the arrangement as well as the combination of the abutments, or their equivalent, with the draw-bar, and with the tumbler applied thereto, so as to operate with a compound motion, as and under circumstances substantially as hereinbefore set forth.

EDWIN R. BIGELOW.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.