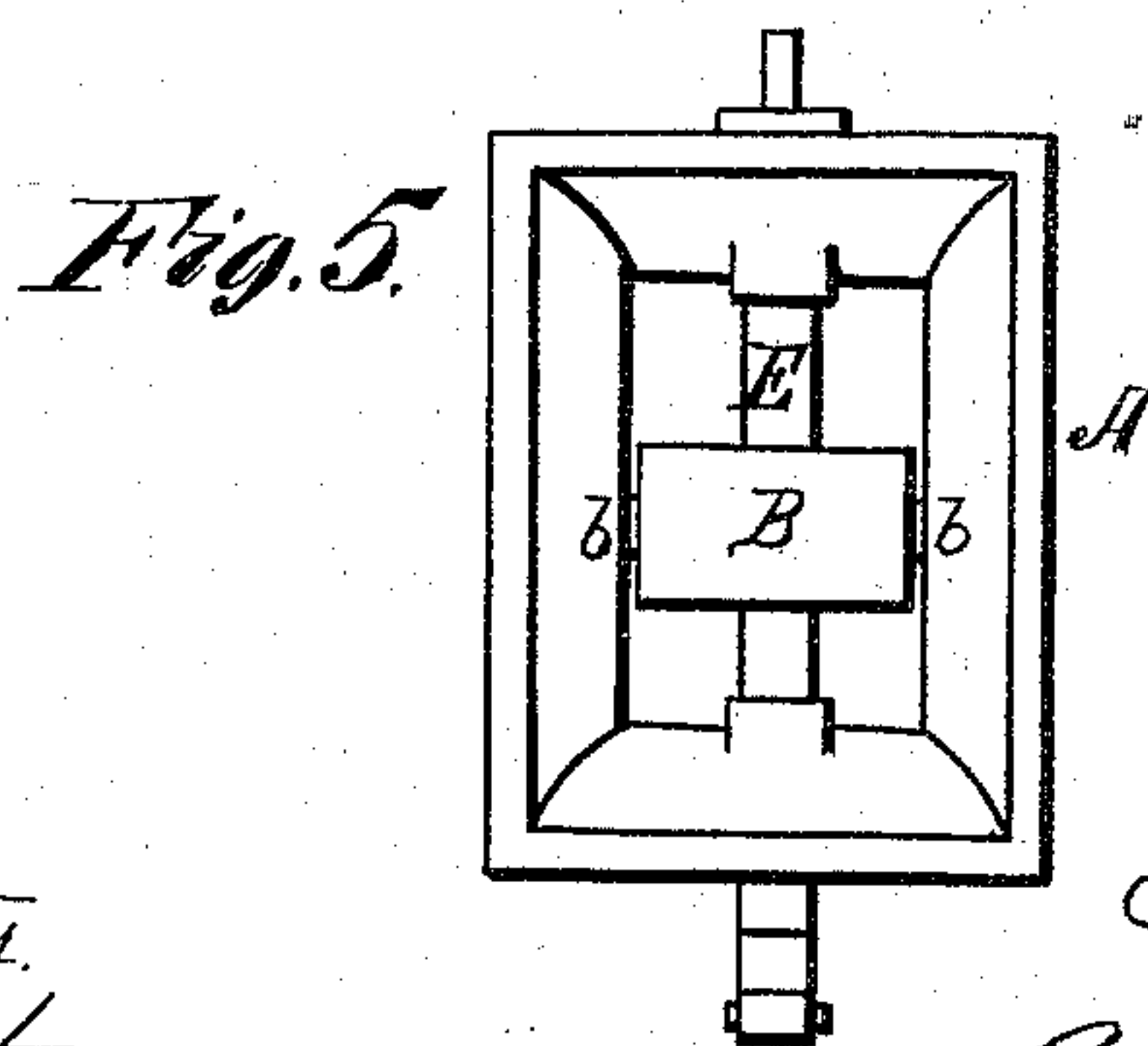
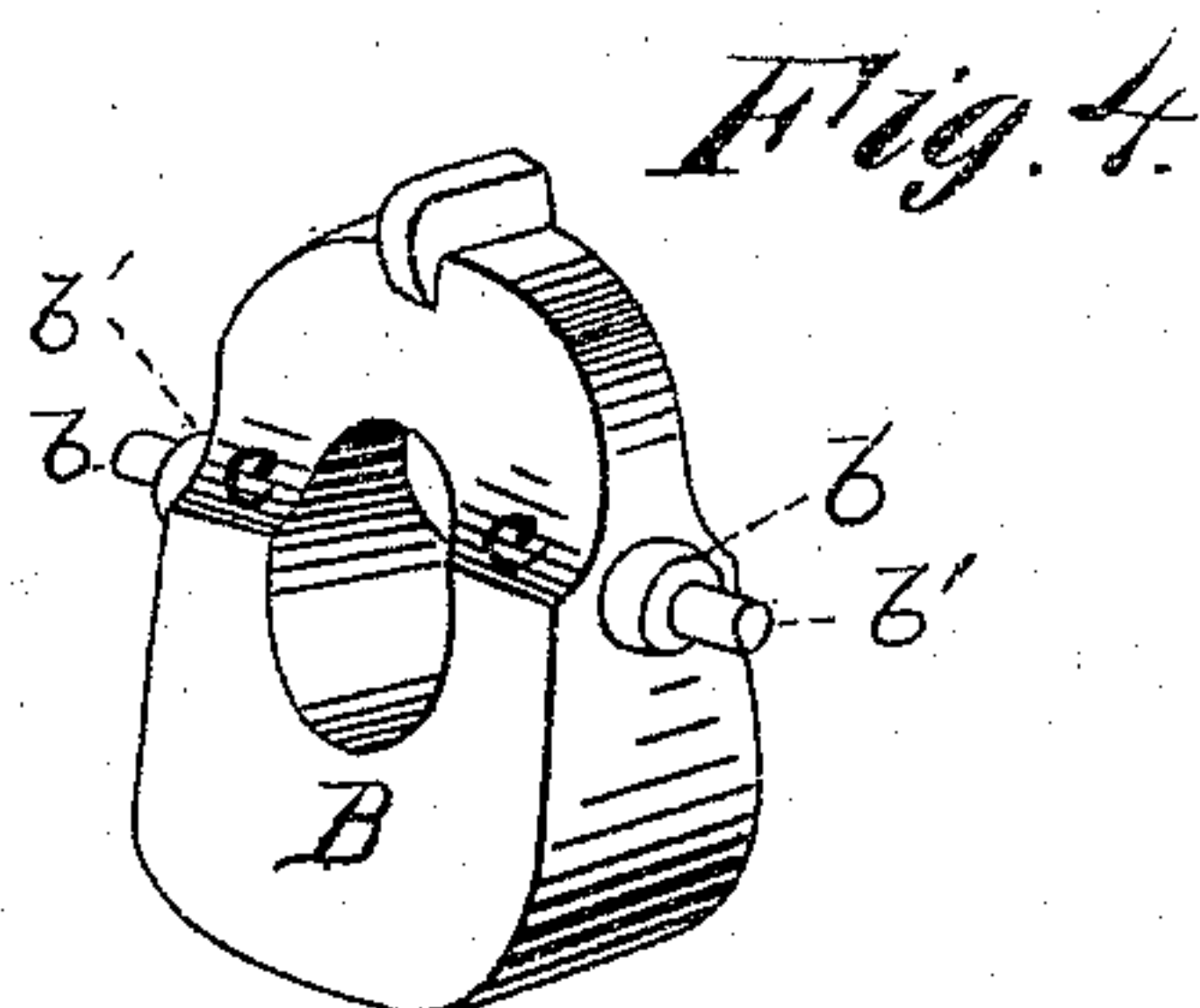
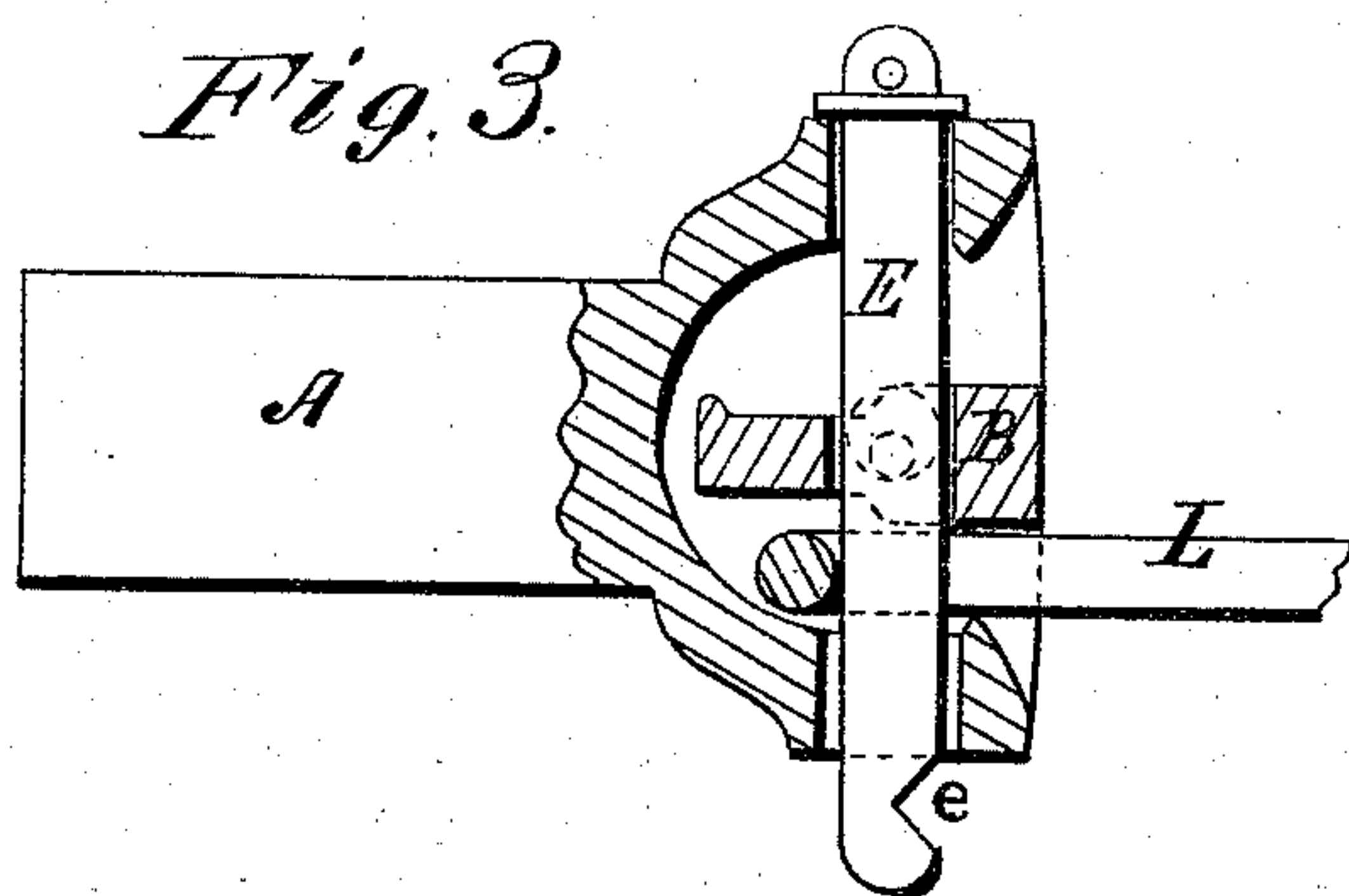
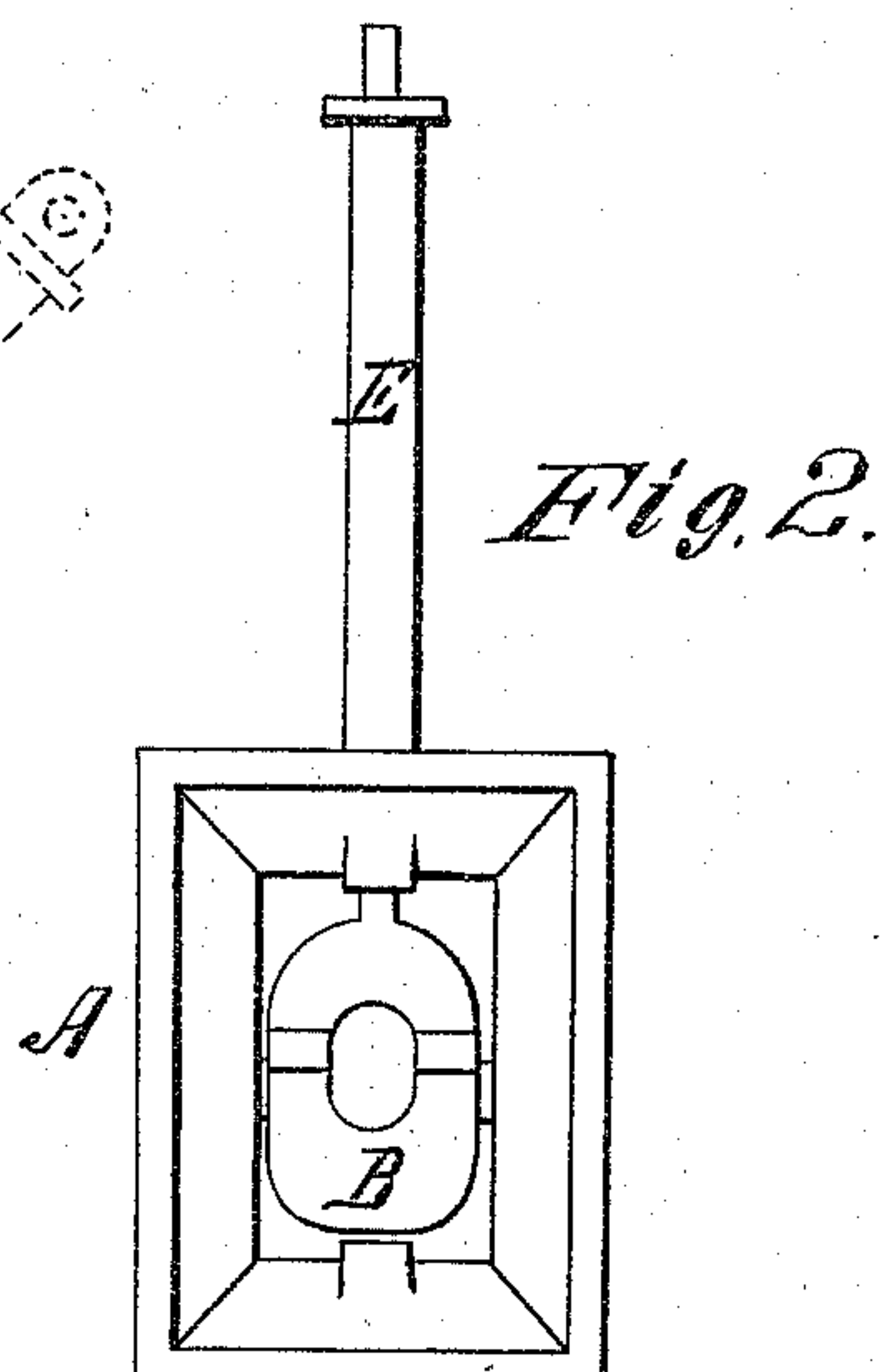
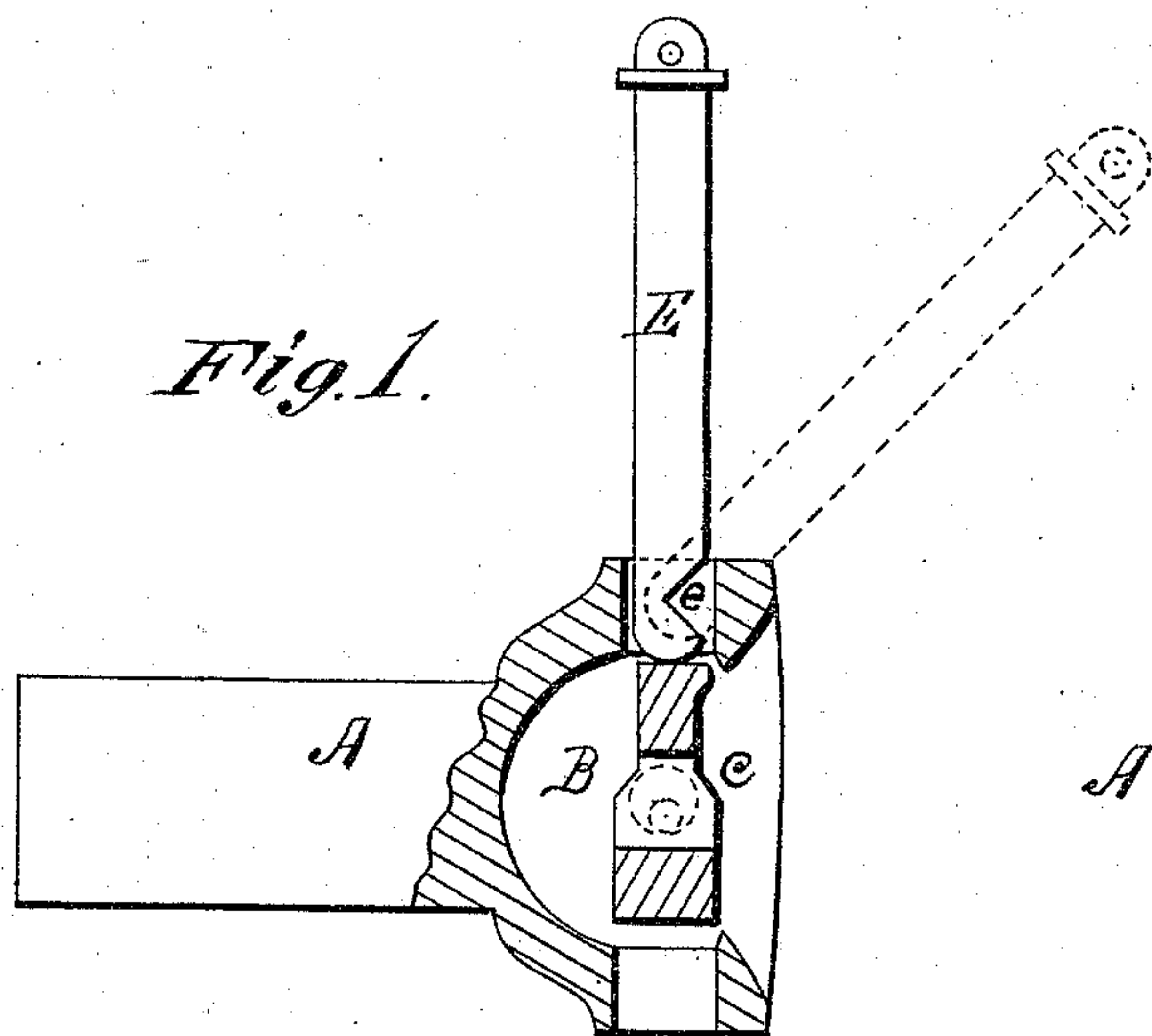


S. O. CAMPBELL.
Car-Couplings.

No. 156,692.

Patented Nov. 10, 1874.



WITNESSES

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UNITED STATES PATENT OFFICE.

SOLON OWEN CAMPBELL, OF SCHELL CITY, MISSOURI.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **156,692**, dated November 10, 1874; application filed August 25, 1874.

To all whom it may concern:

Be it known that I, S. OWEN CAMPBELL, of Schell City, in the county of Vernon and State of Missouri, have invented a new and valuable Improvement in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a sectional view of my car-coupler. Fig. 2 is a front view, Fig. 3 is a sectional view, Fig. 4 is a perspective view, and Fig. 5 is a front view, of the same.

This invention has relation to car-coupling for which Letters Patent were granted to me, bearing date on December 14, 1869, and reissued January 23, 1872, No. 4,716; and the novelty consists in dispensing with the fender-plate arranged horizontally across the mouth of the draw-bar, whereby I am enabled to greatly simplify, and consequently materially lessen the cost of, the said draw-bar, and prevent the jamming of the coupling-link against the said fender-plate and the bottom plate of the draw-bar, whereby a coupling would be prevented. It also consists in providing the tumbler-plate with false trunnions, into which are screwed rat-trunnions, whereby the tumbling-plate may be applied to any draw-bar, and the most remote probability of a jamming is prevented, the perforations in the vertical sides of the draw-bar being made larger than the rat or real trunnions of the tumbling-plate.

In the annexed drawings, A designates a draw-bar, the horizontal and side plates of which are preferably at right angles the one to the other, the latter being perforated at *a*, at or near the center of the length thereof, for a purpose hereinafter to be explained. B designates a centrally-perforated tumbling-plate, similar in its general shape to that shown in my former patents. This tumbler has false trunnions *b* cast upon it on each side of the perforation through it, and they are provided with screw-threaded holes, into which are screwed real trunnions *b'*. When it is desired to apply the tumbling-block to a draw-bar it is first inserted into the chamber thereof, and the real

trunnions are screwed into the perforations in the false trunnions through the perforations *a* in the sides of the draw-bar, the diameter of the latter being preferably greater than that of the false trunnions *b*. In this manner I am enabled to do away with a positive center-point for the said tumbling-block, for, owing to the greater diameter of the bearing perforations for the said real trunnions, even should the link L strike the exact center of the horizontal axis of said trunnions, as the latter are not rigidly confined, the center-point will be destroyed and the tumbler caused to rotate, allowing the link to enter the draw-bar and a coupling to be effected by the falling of the pin through the central perforation of the said tumbler and the coupling-link; but as there will always be a positive center, impinging against which the link will always be prevented from penetrating into the draw-bar, I have caused the front surface of the said tumbler to be beveled, as shown in Fig. 1, at *c*, the inclination of the said bevel being from below the center of the axis of the real trunnions inward toward the interior of the draw-bar. Should the coupling-link strike the absolute center of the long axis of the real trunnions, it must now be positively deflected upward, allowing it to enter the draw-bar. Upon the lower front end of a preferably (in cross-section) oblong coupling-pin, E, I have caused a notch, *e*, to be made, whereby I am enabled to draw the said pin out of its perforations and incline it to the front, as shown, and thus am enabled to bring cars together without effecting a coupling when it is not desired.

In my original patent before referred to, the tumbling-plate was shown having bearings for its trunnions upon a horizontal partition rigidly secured at about the center of the vertical height of the said chamber, and in the reissue of January 23, 1872, while the plate was directly mounted upon the vertical sides of the draw-bar, I still retained in front of it a rigid fender-plate. To those skilled in the art it will be evident that a coupling-link raised in horizontal position would, at times, strike full against the partition or the fender, in either of the cases causing the link to be hopelessly wrecked. If inclined downward at an angle, say, approaching forty-five degrees,

it would be jammed against the partition or the fender-plate and the bottom of the car, and again a coupling would fail to be effected. In my present application I have remedied these defects, and have now invented a coupler which will always and at all times accomplish the desired end.

By using the above-described real trunnions my improved tumbling-plate may be applied at small cost to any common draw-bar.

What I claim as new, and desire to secure by Letters Patent, is—

1. The tumbling-block B, having false trun-

nions *b* and real trunnions *b'*, substantially as specified.

2. The combination, with a draw-bar, A, of the tumbler B, having real trunnions *b'* and false trunnions *b*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SOLON OWEN CAMPBELL.

Witnesses:

R. ELAM,

ELI COLLIER.