

(No Model.)

J. C. BOYLE.

CAR COUPLING.

No. 317,082.

Patented May 5, 1885.

Fig. 1.

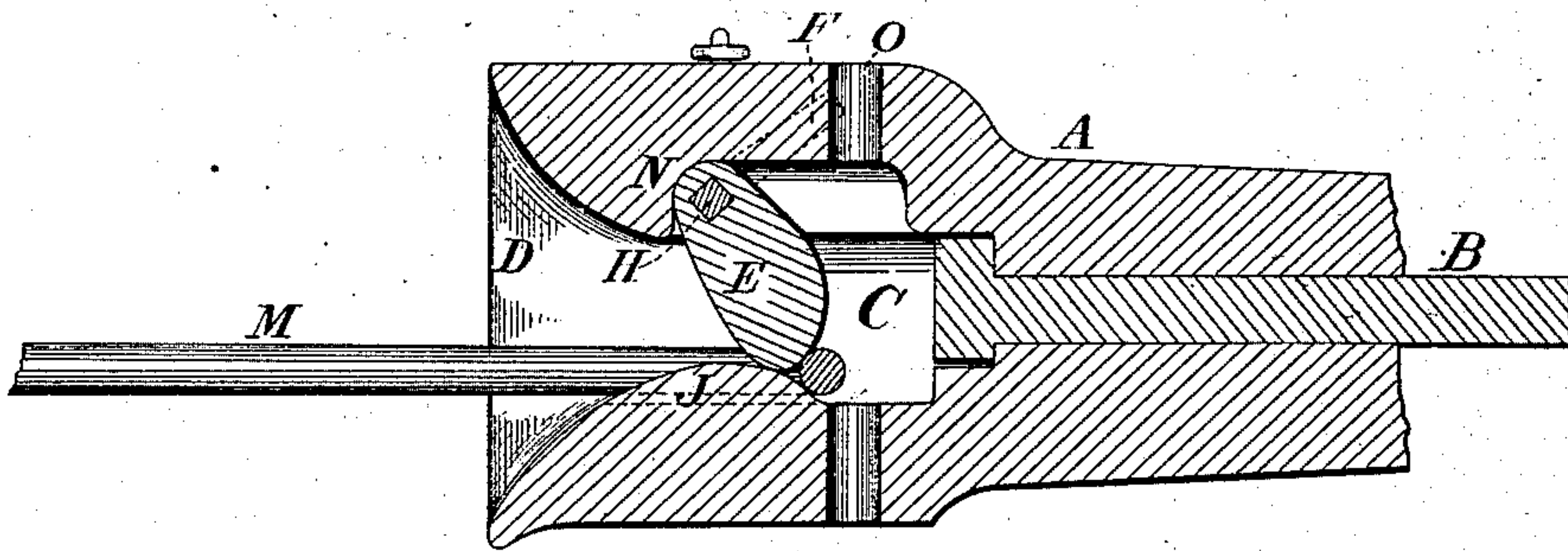


Fig. 2.

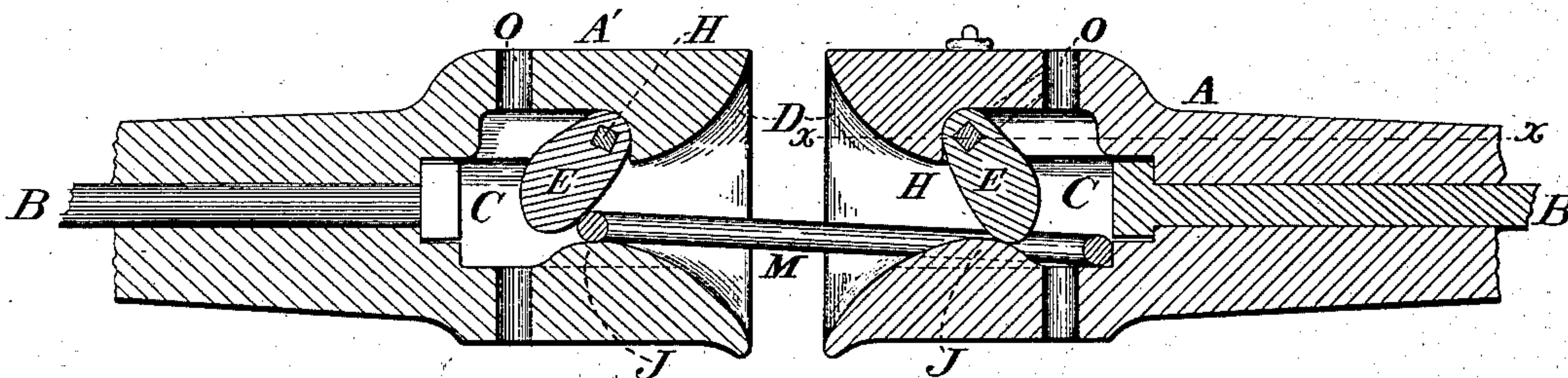


Fig. 3.

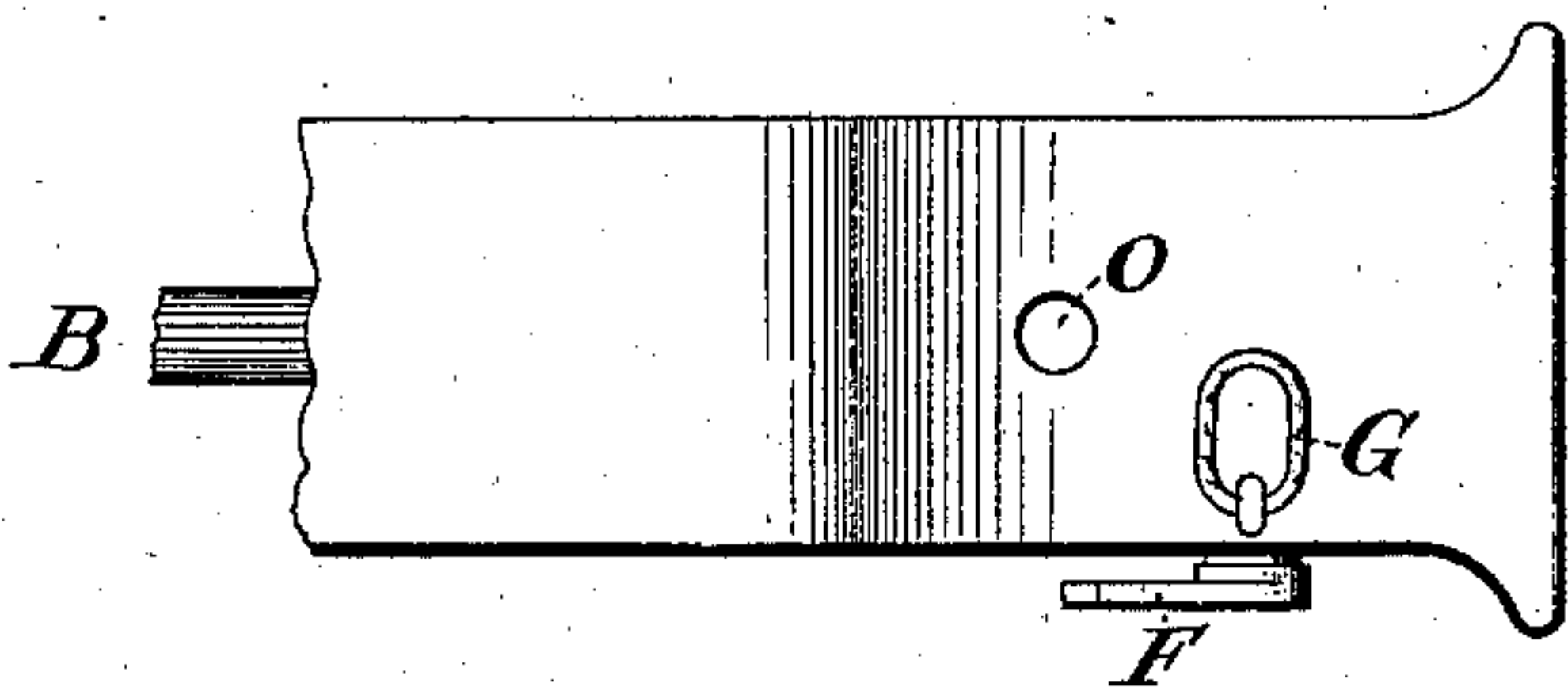


Fig. 4.

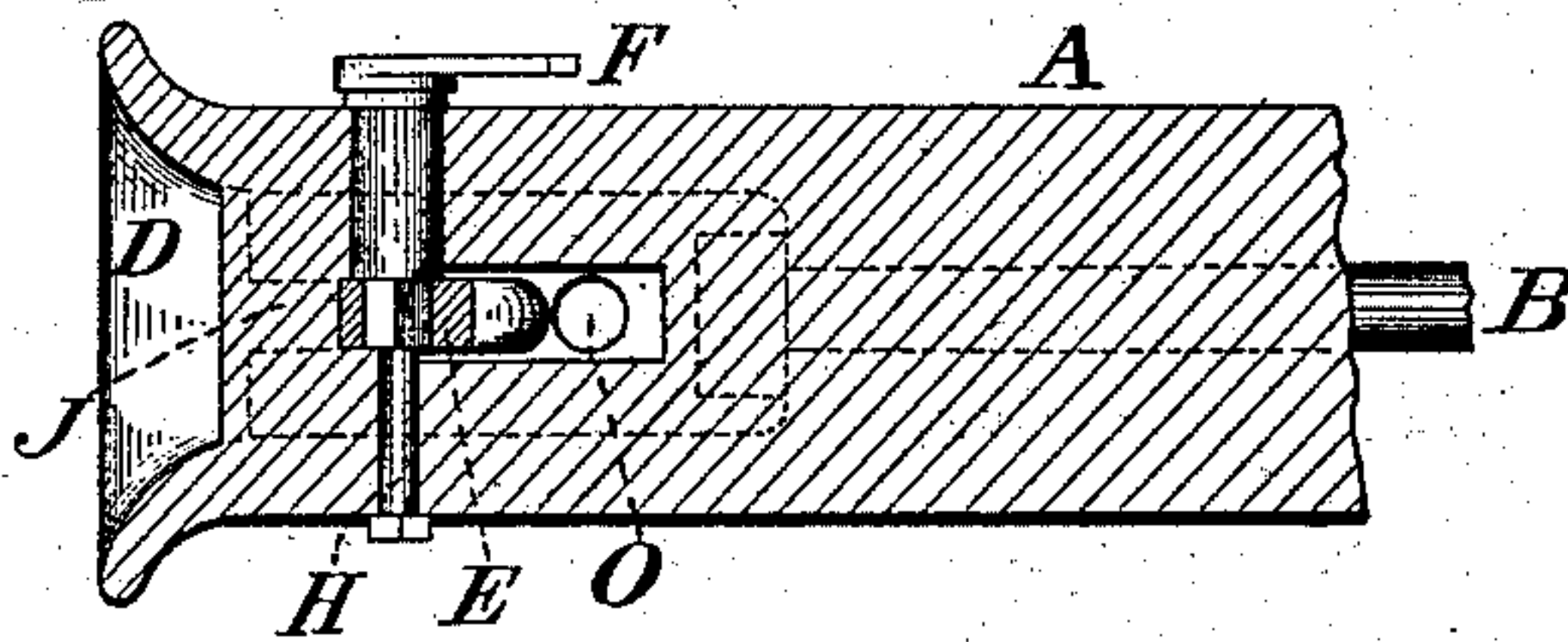
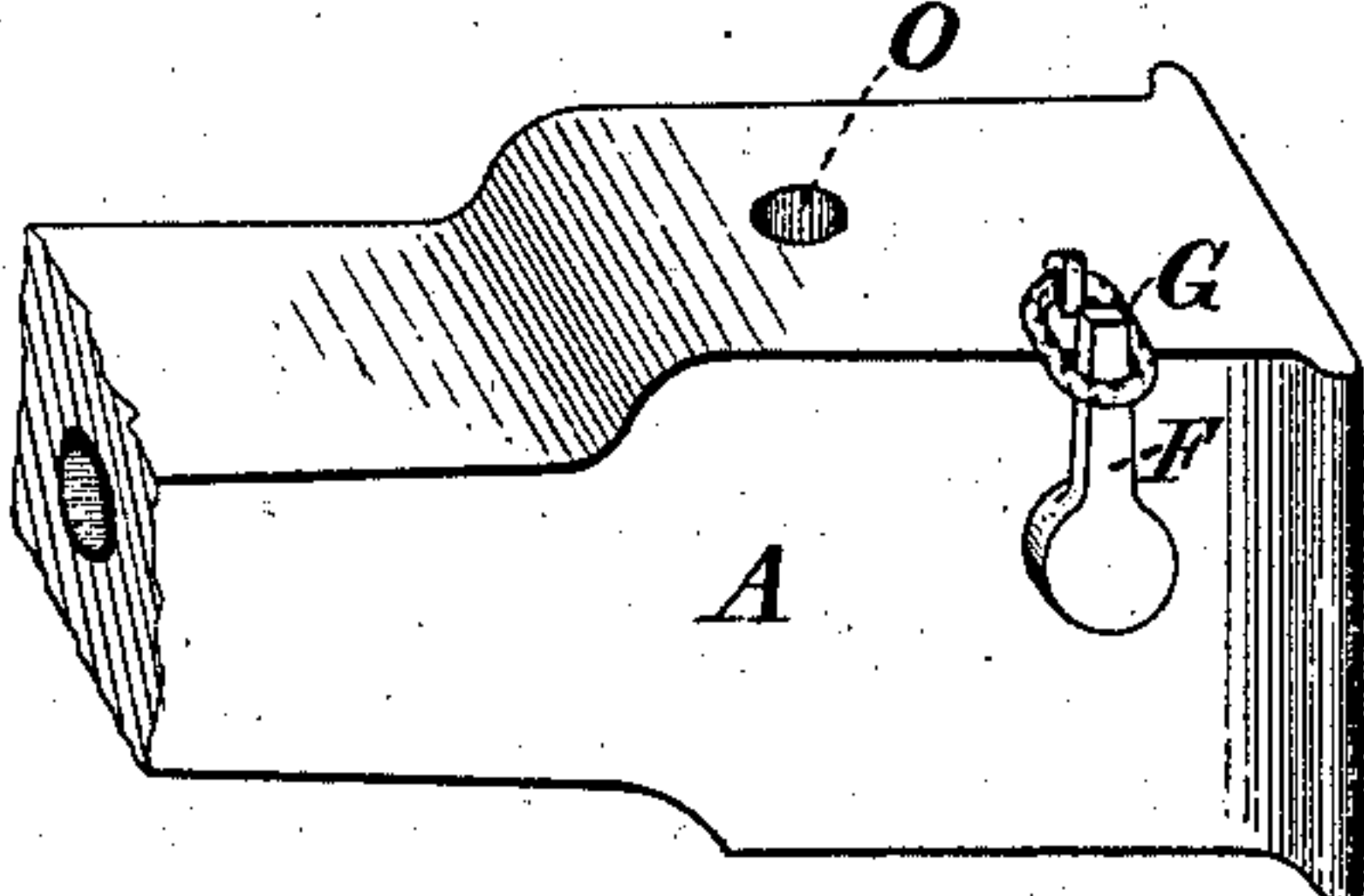


Fig. 5.



Witnesses.

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JAY CHAMBERLAIN BOYLE, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 317,082, dated May 5, 1885.

Application filed March 5, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAY CHAMBERLAIN BOYLE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an improvement in car-couplings of that class in which a pivoted tongue or catch is employed to engage a coupling-link, and thereby to join two cars together. I am not the inventor of a pivoted tongue, broadly considered, for I am aware of many prior patented devices in which that idea is embodied. All of them have, however, been defective, in that they are complicated or not capable of sufficient strength, or both; and my invention consists in a novel construction of the catch and its auxiliaries, which will obviate these defects.

I will describe my improvement with reference to the accompanying drawings, in which—

Figure 1 is a longitudinal and vertical section of a draw-head provided with my improved coupling. Fig. 2 is a similar section of two opposite draw-heads when one is coupled, and when the link is in the act of coupling with the other. Fig. 3 is a plan top view of the draw-head shown in Fig. 1, though on a smaller scale. Fig. 4 is a horizontal section on the line *xx* of the draw-head marked A in Fig. 2. Fig. 5 is a perspective side view of the draw-head shown in Fig. 4.

Like letters of reference indicate like parts in each.

In the drawings, A A' represent the draw-heads of ordinary freight railway-cars, and B the pins or bars which secure them to their respective cars. The outer portion of each of these draw-heads is provided with a recess, C, having an outwardly-flaring mouth, D. The upper tapered side of the mouth D terminates interiorly at a point preferably below the top of the recess, and at the offset thus formed is pivoted the catch or tongue E, before mentioned. The pintles H by which this tongue is pivoted are preferably made rigid

to it, and extend laterally through the sides of the draw-head. One of them may conveniently be provided with a lever or handle, F, by which the tongue may be raised to the top of the recess C or allowed to drop therefrom at the will of the operator. When the tongue is raised, the handle may be secured by a link-latch, G, as shown in Fig. 5, or in any other suitable way. The downward motion of the tongue is limited by means of a stop, J, which is situated so that the tongue when dropped (see Figs. 1 and 2) may be inclined at an obtuse angle with the base of the inner part of the recess C. It is preferably made by a rounded bulge or projection on the base of this recess, as distinguished from a stop abruptly cut or cast thereon. The shape of the tongue E is such that when it is in contact with the stop J (see Fig. 1) the bearing part of the coupling-link M upon it shall be at the interior angle of contact with the stop, and that the link may bear upon both the tongue and the stop equally. For this purpose the tongue is preferably made oval or semi-oval in longitudinal section, being pivoted at the smaller end of the ovum, and having its bearing with the stop J at the larger end thereof.

Thus constructed, suppose the link M to be inserted within the flaring mouth of the draw-head and into contact with the outer face of the pivoted tongue E. It will thus push the latter upward upon its pivot and slip thereunder into the rear of the recess C. So soon as it has cleared the tongue the latter will fall, and, having engaged the stop J, will come to rest. The link will then be confined, and any forward motion of the next car will draw the former into the angle formed by the divergence of the side of the tongue from the curved end of the stop, and the harder the pull of the car the more securely will the tongue be held in place. The strain upon the draw-head will be about equally divided between the point N, which is the bearing of the upper end of the tongue, and the base of the draw-head at J. This serves to distinguish my improvement from those in which the link pulls directly upon one point. In my coupling the

primary object of the link is to confine the link, and to direct its strain upon the proper points. The backward inclination of the tongue causes the strains upon it to be lengthwise, and thus increases its efficient strength very materially.

In order to provide against any damage which might occur to the pivoted tongue, a vertical pin-hole, O, may be made through the draw-head across the recess C, and the latter extended back so that a link may be situated far enough therein to permit a coupling-pin to be dropped through the hole and through the link.

My improvement is simple, easily constructed, and durable. It is entirely automatic in its coupling action, because when the tongue E has been raised to admit the link into the draw-head it will immediately fall again by its own gravity to confine it.

It will be noticed that the link is not confined by the tongue E and stop J in its movement in the space C.

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

1. In a car-coupling, the combination of a draw-head, the tongue E, ellipsoidal in form, and having curved bearing-faces, and a

stop, J, having curved inner face for limiting the downward movement of the tongue to a position in which the latter is inwardly inclined, and so that the bearing of the link may be in the interior angle of divergence of the tongue from the stop and in rear of the body of the tongue, substantially as and for the purpose specified.

2. In a car-coupling, the combination of a draw-head, a tongue pivoted within the draw-head, and a stop for limiting the downward movement of the tongue to a position in which the latter is inwardly inclined, the lower and inner side of the tongue being inwardly and upwardly inclined on a regular curve or line, the inner side of the stop correspondingly downwardly inclined on a regular curve or line, and the bearing of the link in the interior angle of divergence of the said inclined sides of the tongue and stop in rear of the body of the tongue, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 26th day of January, A. D. 1885.

JAY CHAMBERLAIN BOYLE.

Witnesses:

W. B. CORWIN,

J. M. K. SMITH.