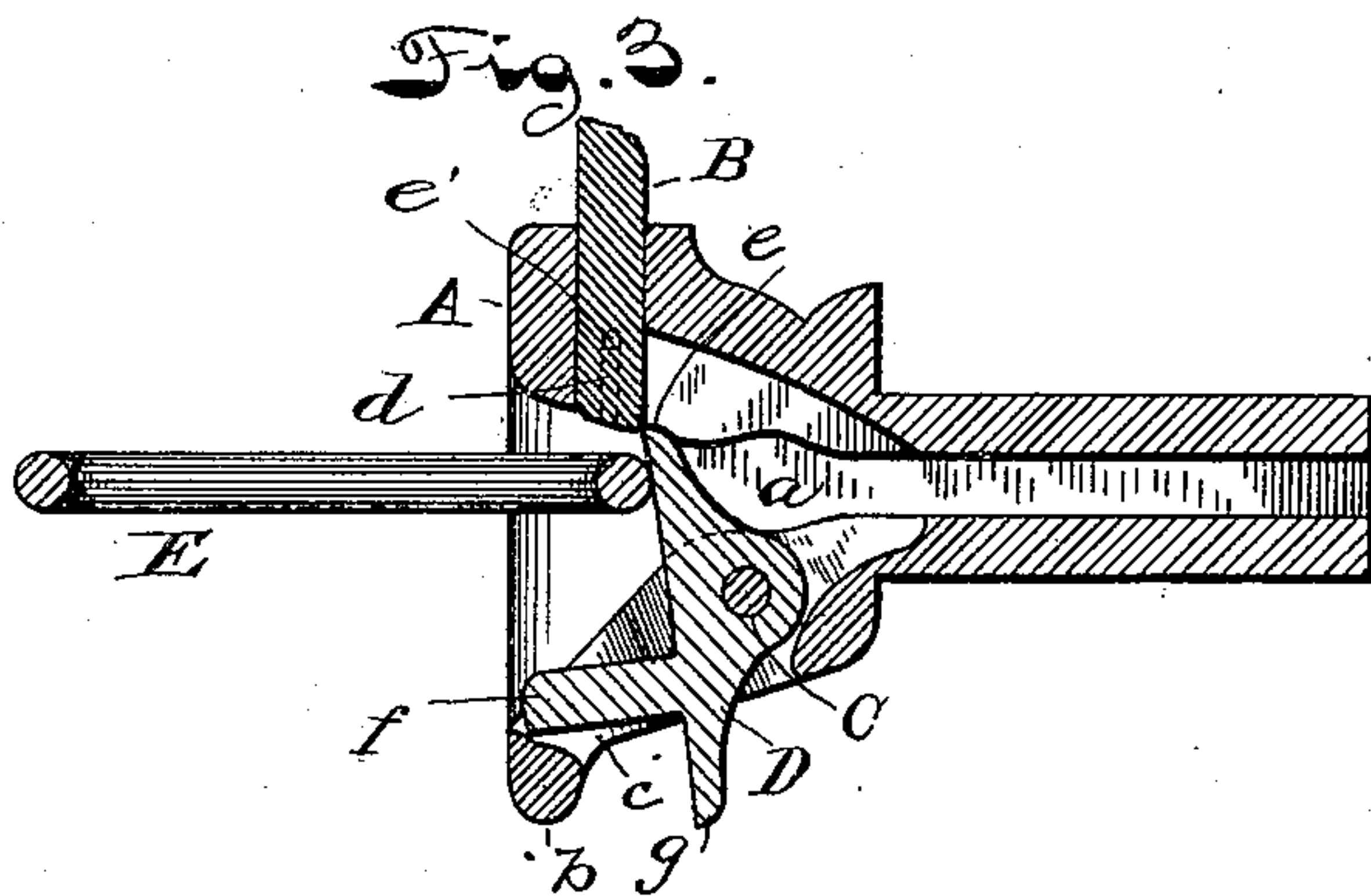
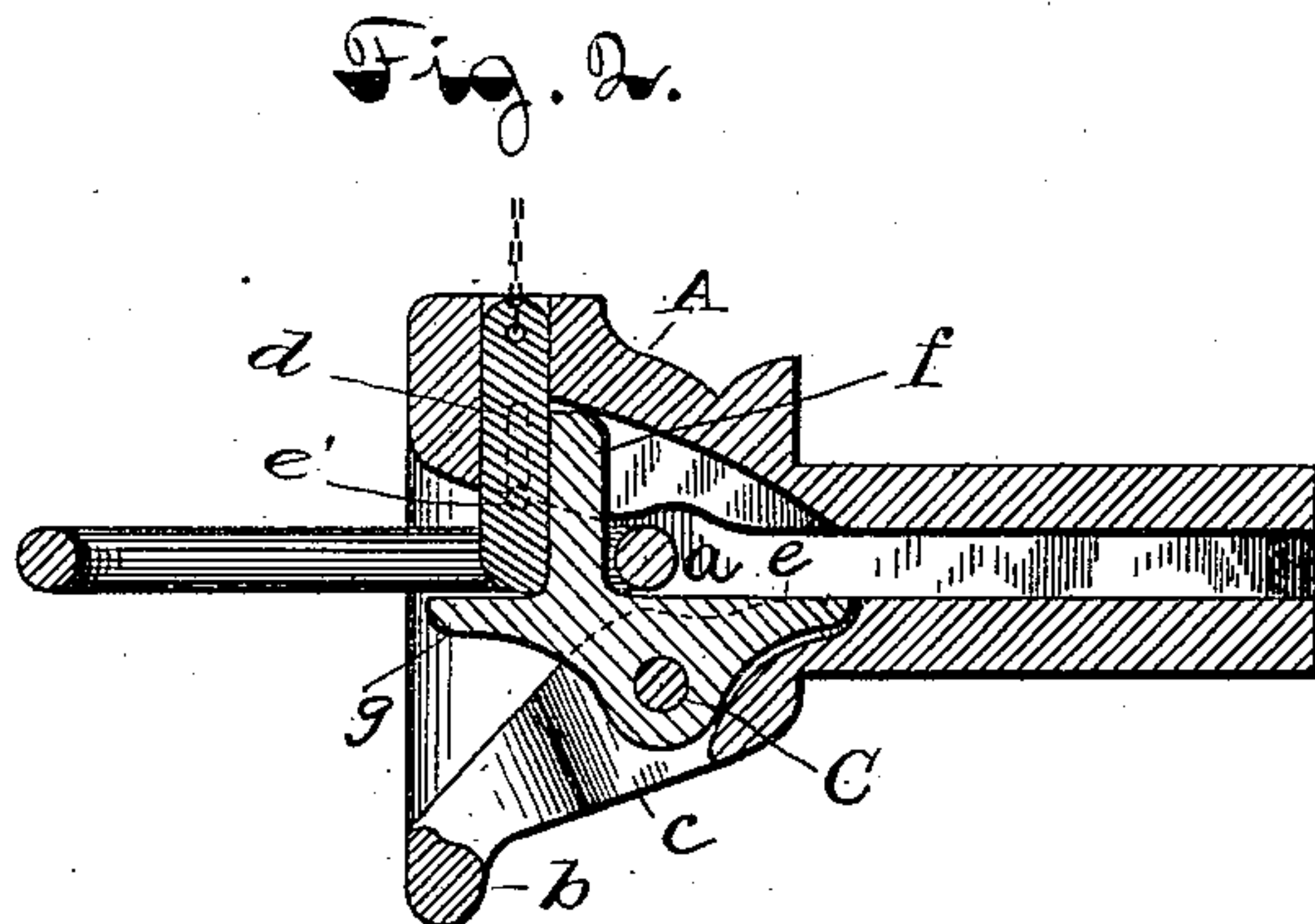
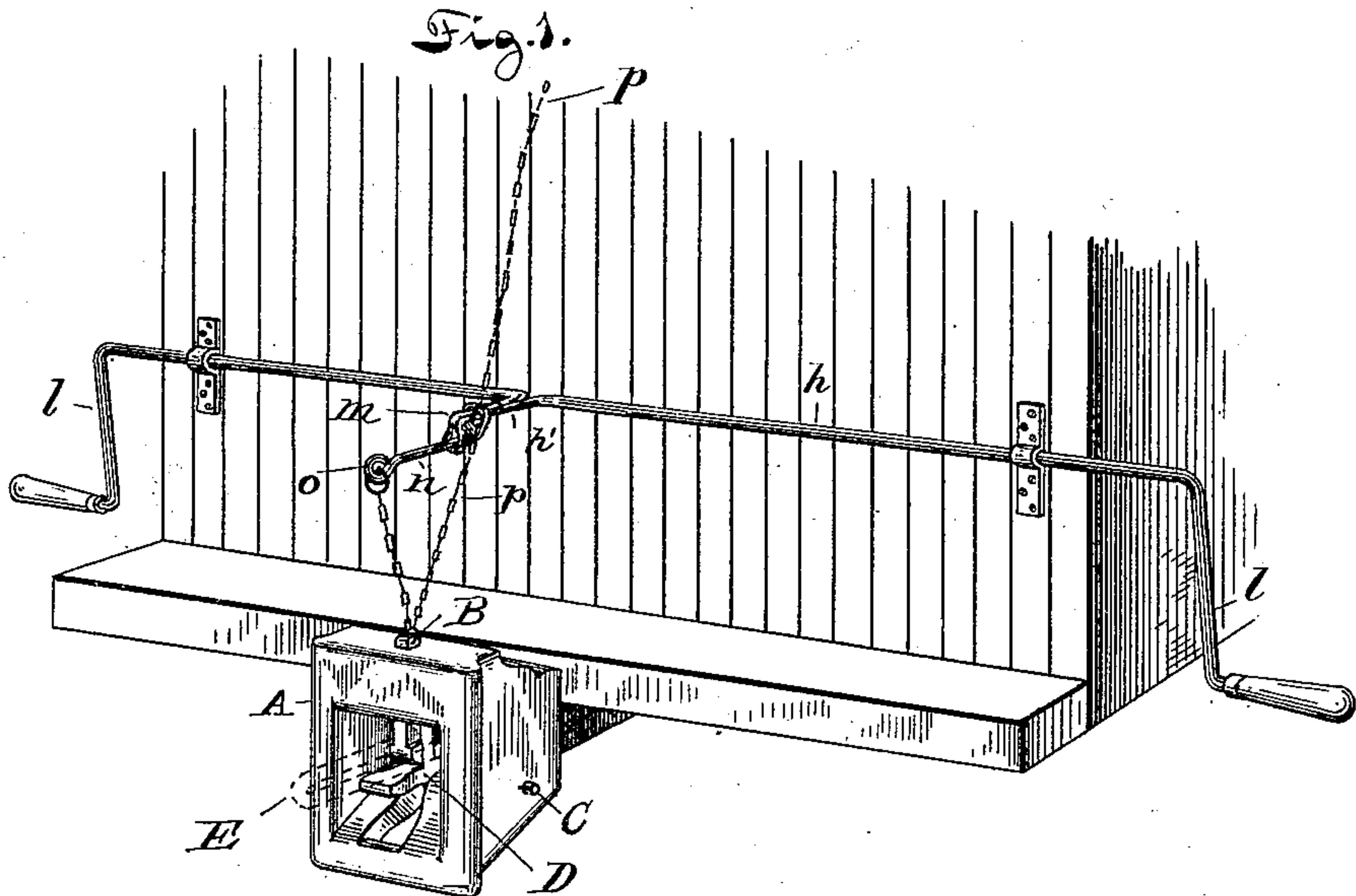


(No Model.)

S. LOE.  
CAR COUPLING.

No. 407,296.

Patented July 16, 1889.



Witnesses.

H. D. Neely,  
M. H. Patterson

Inventor.  
Syver Loe.

By his Attys.  
A. H. Evans & Co.



# UNITED STATES PATENT OFFICE.

SYVER LOE, OF LA CROSSE, WISCONSIN, ASSIGNOR OF ONE-HALF TO MONS  
ANDERSON, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 407,296, dated July 16, 1889.

Application filed April 3, 1889. Serial No. 305,328. (No model.)

*To all whom it may concern:*

Be it known that I, SYVER LOE, a citizen of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Car-Couplings, of which the following is a full and clear description, reference being had to the accompanying drawings, forming part of this specification, in which—  
10 Figure 1 represents a perspective view of a car, showing my coupling attached. Fig. 2 is a sectional view taken longitudinally through the draw-head and showing the link secured. Fig. 3 is a similar view showing the link entering the draw-head.  
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My invention relates to that class of car-couplings which are automatic in movement in coupling and which are uncoupled by means of levers exterior of the car, whereby the dangers incident to the coupling and uncoupling of cars are avoided; and my invention consists in the constructions and combinations of devices, which I shall hereinafter fully describe and claim.  
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To enable others skilled in the art to which my invention appertains to make and use the same, I will now describe its construction and indicate the manner in which the invention is carried out.  
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Referring now to the drawings, A represents a draw-head formed with a wide deep throat, terminating at its rear in a chamber *a*, said throat having a lower jaw *b*, extending downward at an abrupt angle and having its lower wall slotted, as at *c*, for a purpose I will hereinafter fully describe. The draw-head is also provided with an opening or recess for the coupling-pin B, and the side walls of this recess are vertically slotted at *d* to receive the pin *e*, projecting laterally from the coupling-pin, whereby the said coupling-pin is retained in place in the draw-head, but is permitted to have a vertical movement to insure the proper coupling and uncoupling of the cars. The slots and pin also limit the movement of the coupling-pin in both directions.  
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Passing transversely through the lower portion of the draw-head and through the side wall thereof is a bolt or pin C, having mounted thereon, at or about the center of the throat of the draw-head, a tumbler D, having three

arms *e*, *f*, and *g*, the arm *f* standing at about right angles with the arms *e* and *g* and resting normally against the lower inclined wall of the throat, as shown in Fig. 3. When the tumbler is in its normal position, as shown in said figure, the arm *g* projects nearly vertically through the slotted jaw of the draw-head, and the arm *e* extends upwardly in rear of the coupling-pin, while the latter in its normal position rests in the position shown in Fig. 3. The lower portion of the coupling-pin is beveled or rounded, and the forward end of the arm *f* is also rounded, so that when the coupling-link E enters the draw-head it strikes upon the inclined wall of the lower jaw, and riding upward thereon it strikes the front side of the arm *e* of the tumbler, and causes said tumbler to rotate on its axis or bolt C. As the coupling-link continues to move backward in the draw-head, it also continues to force the arm *e* of the tumbler backward until its rear side comes at rest against the bottom wall of the chamber *a*, as shown in Fig. 2. During the rearward movement of the arm *e* the other arms *f* and *g* of the tumbler are moving forward, the arm *f*, passing upward through the coupling-link and striking the bottom of the coupling-pin, holds the said pin in an elevated position until the arm passes rearward from beneath it, when the said pin immediately drops in front of the arm *f*, as shown in Fig. 2, and the arm *g*, which is broader at its front end than at the rear, will be found immediately under the link, which is supported by the broad front end of the arm *g*, whereby said link is held in a substantially horizontal position, so that it may be accurately guided into the draw-head of the car to be coupled.  
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The means for raising the coupling-pin and effecting the uncoupling of the cars may be of any well-known description; but I prefer to employ a construction similar to that shown in Fig. 1, and this construction consists of a rod *h*, journaled across the front of the car, and having at its ends handles or levers *l*, by means of which the rod is rocked in its bearings. The center of the rod is bent forward at *h'* and formed with an eye *m*, and a second rod *n*, mounted upon the projecting portion *h'* of the rod *h*, passes through the eye *m* of  
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said rod, and is formed or provided with an eye or loop *o*, which connects by a link or chain with the coupling-pin, and has another eye or loop which receives the forwardly-projecting portion of the rod *h*, whereby when the rod *h* is turned to raise the coupling-pin the rod *n* moves backward on the projecting arm *h'* of the rod *h* to provide for the vertical movement of the coupling-pin.

10 If desired, a chain *p* or other connection may be attached to the coupling-pin and extend to the top of the car, whereby the uncoupling may be effected from the top of freight-cars, &c., without danger to the operator.

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

An improved car-coupling, consisting of a draw-head having the lower slotted jaw, the coupling-pin and link, the transverse bolt, and the tumbler thereon, said tumbler having the arm *e*, which receives the impact of the coupling-link, the arm *f*, which passes through the coupling-link and behind the coupling-pin, and an arm *g*, projecting at right angles to the arm *e*, said arm *g* being broader at its front end than at its rear and supporting the link after the parts are coupled, substantially as herein described.

SYVER LOE.

Witnesses:

W. L. CROSBY,  
GEO. H. GORDON.