

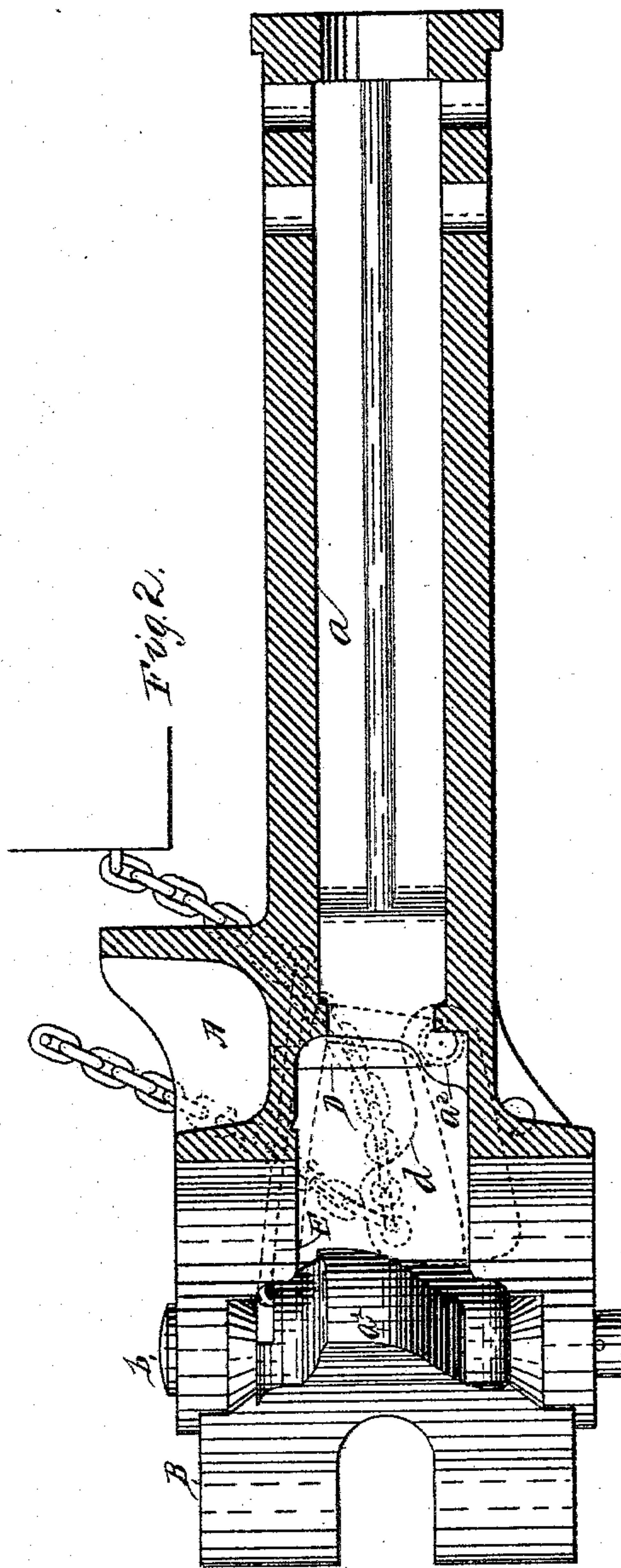
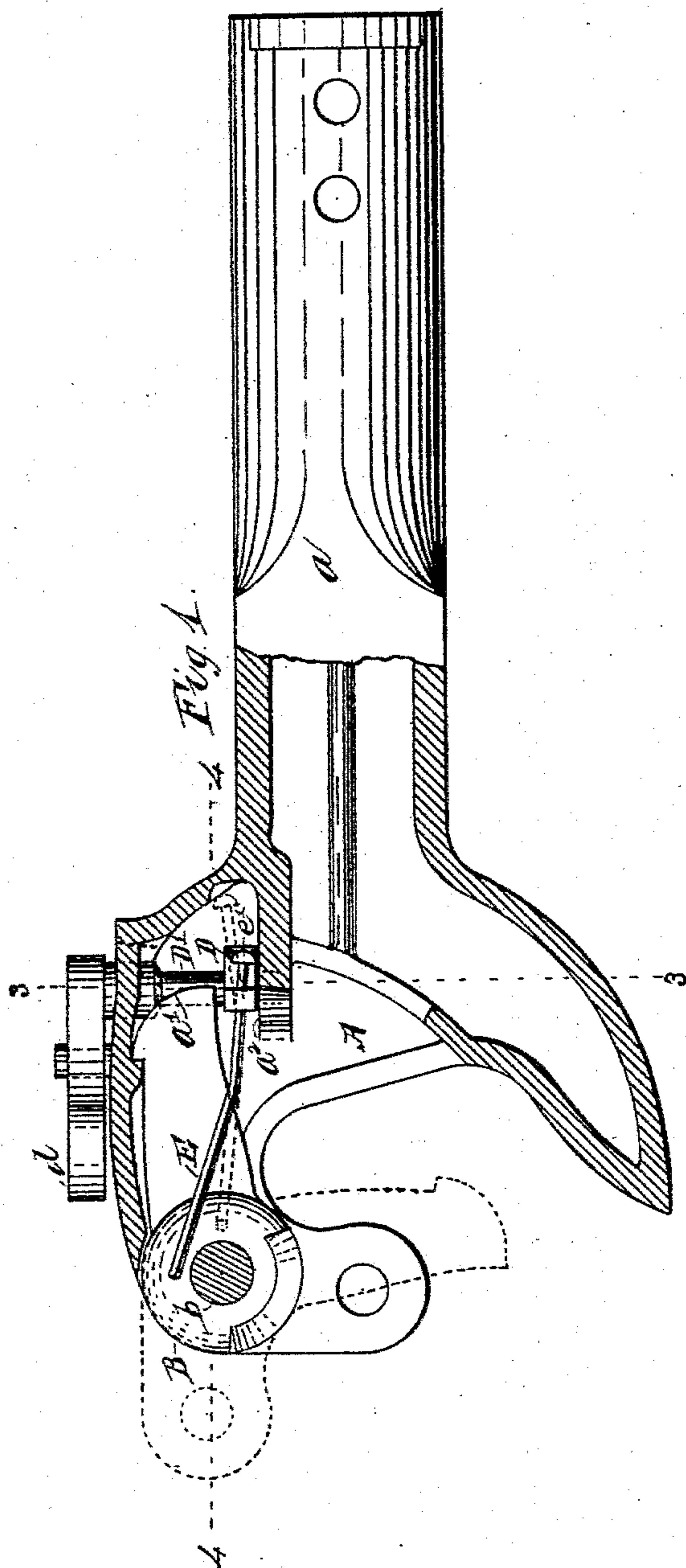
(No Model.)

2 Sheets—Sheet 1.

C. H. DALE & F. A. FOX.
CAR COUPLING.

No. 494,736.

Patented Apr. 4, 1893.



WITNESSES:
C. H. Dale
F. A. Fox

INVENTORS
Charles H. Dale
Frank A. Fox
BY *Edwin H. Brown*
THEIR ATTORNEY

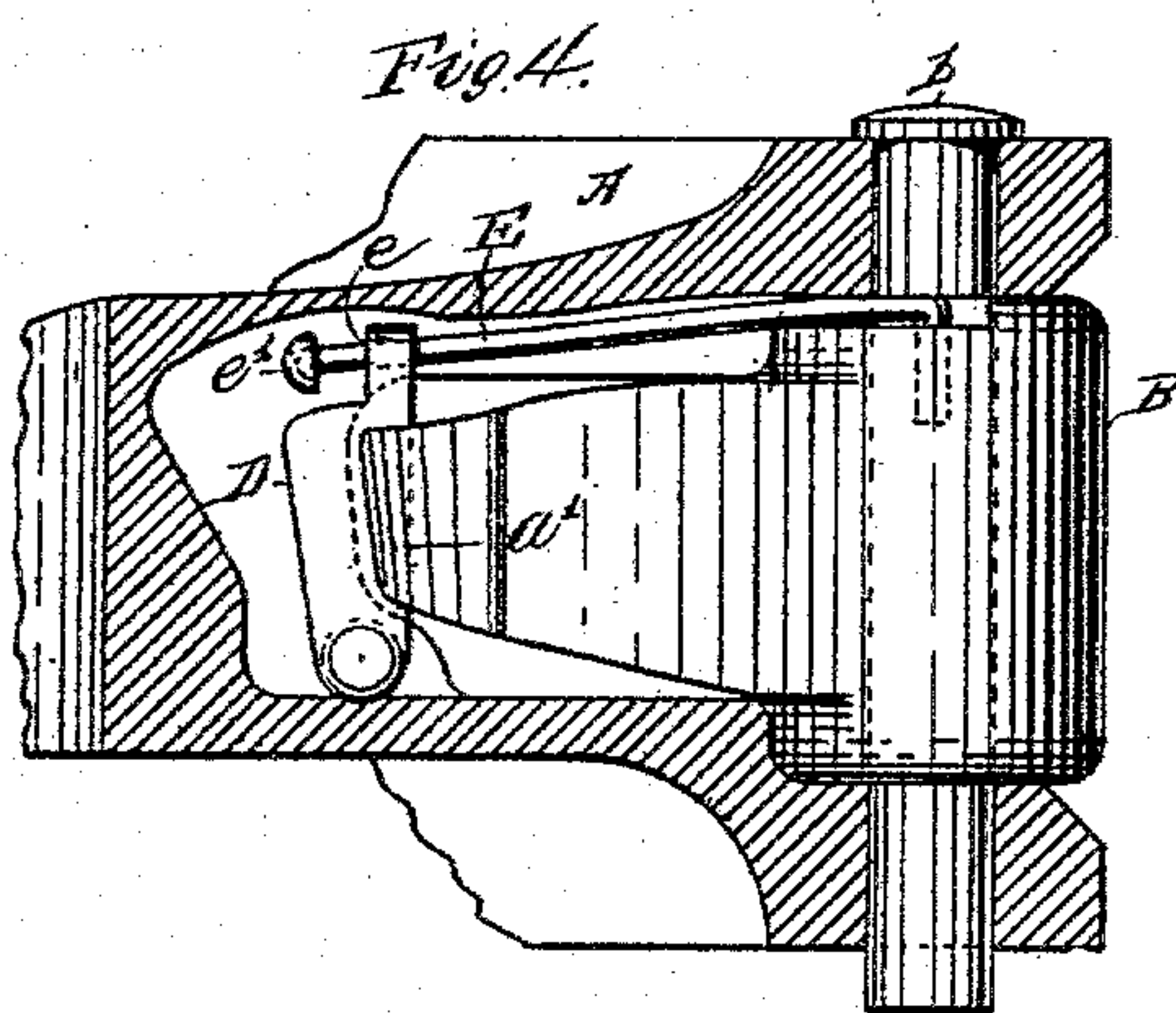
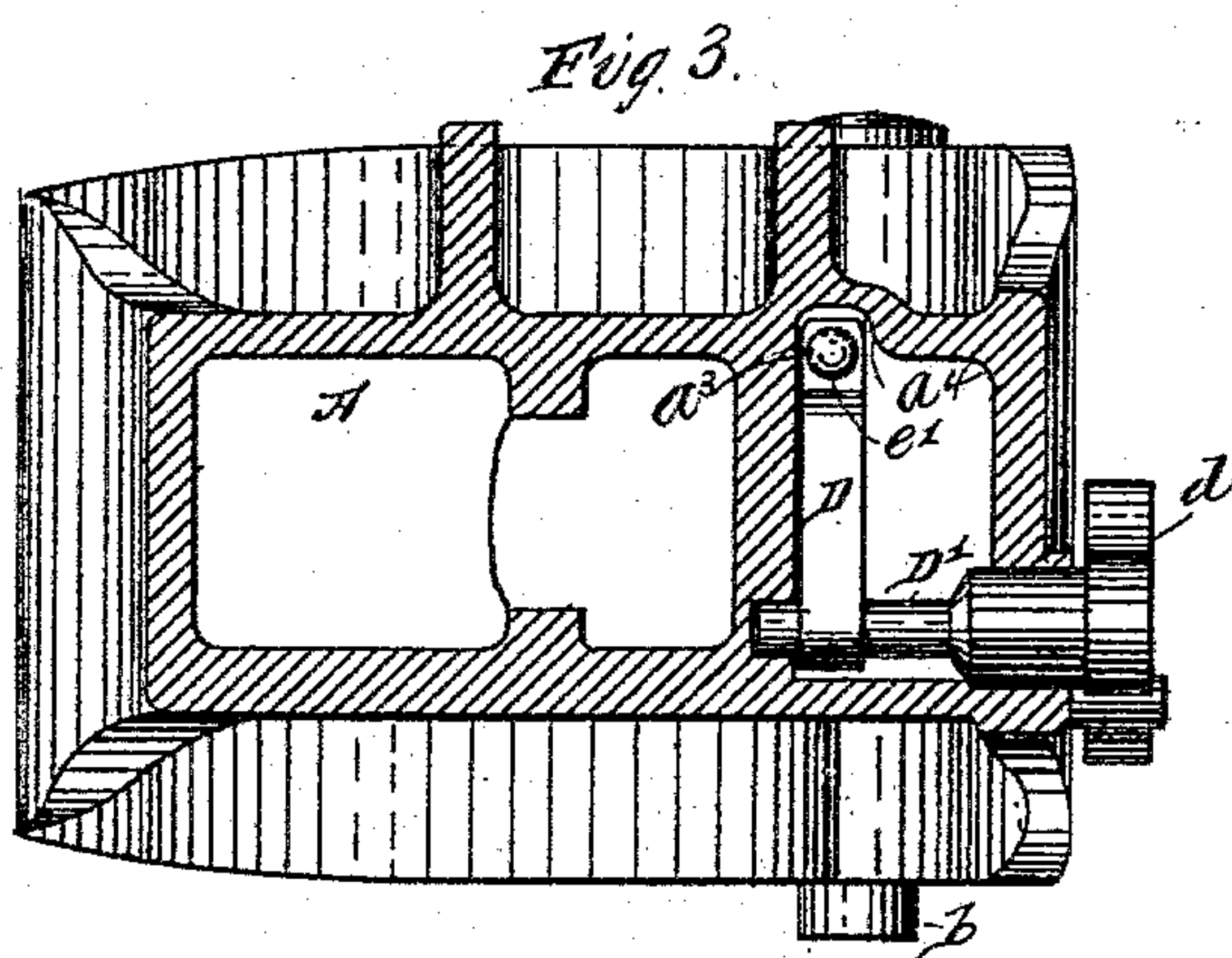
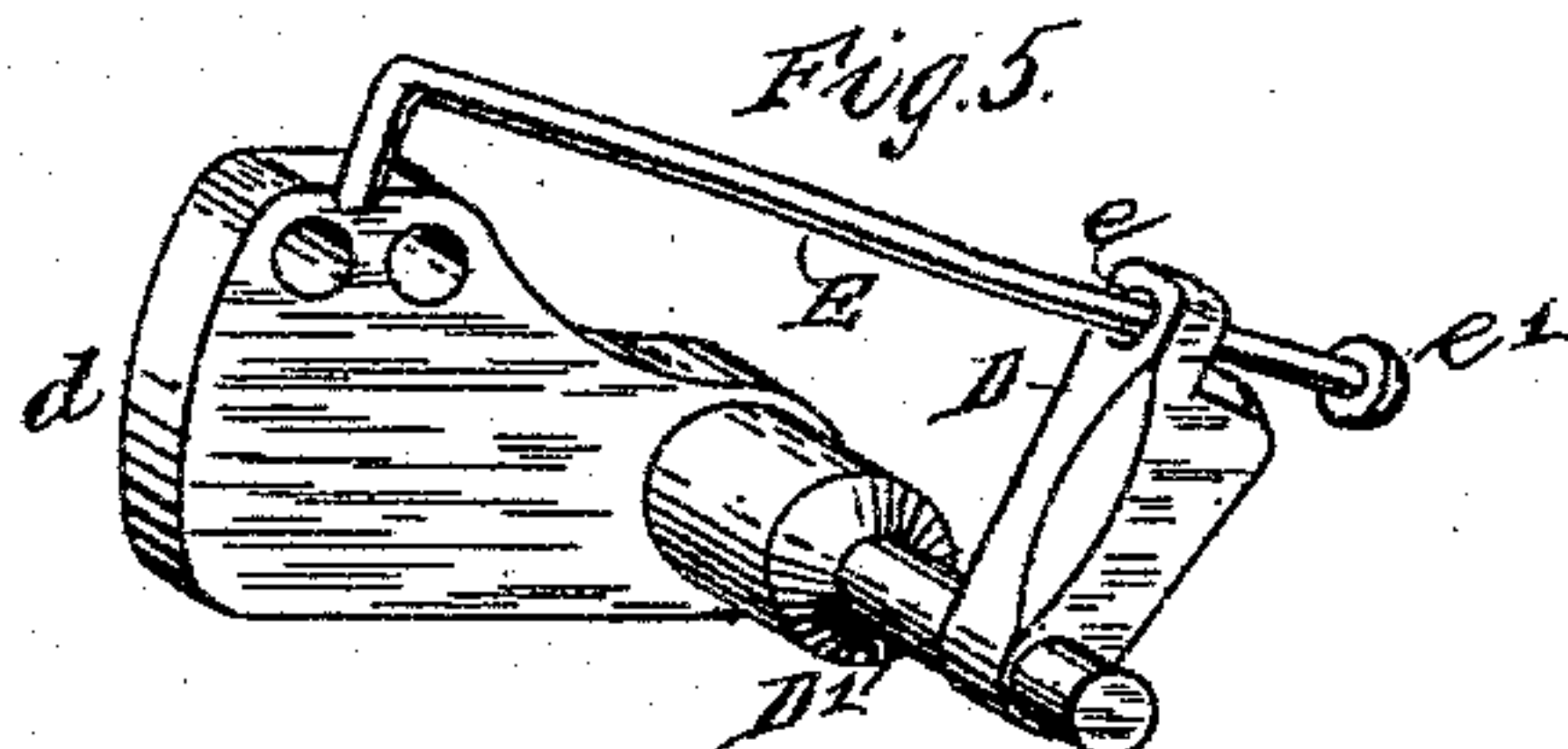
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UNITED STATES PATENT OFFICE.

CHARLES H. DALE AND FRANK A. FOX, OF NEW YORK, N. Y.; SAID FOX
ASSIGNOR TO THE EMPIRE CAR COUPLER COMPANY, OF WEEHAW-
KEN, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 494,736, dated April 4, 1893.

Application filed August 15, 1892. Serial No. 443,117. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. DALE and FRANK A. FOX, both of the city of New York, county and State of New York, have invented a certain new and useful Improvement in Car-Couplers, of which the following is a specification.

We will describe a car coupler embodying our invention and then point out the novel features in the claims.

In the accompanying drawings Figure 1 is a horizontal view, partly in section, of a coupler embodying our invention. Fig. 2 is a vertical longitudinal section. Fig. 3 is a transverse section on the line 3, 3, of Fig. 1. Fig. 4 is a section of a certain part on the line 4, 4 Fig. 1. Fig. 5 is a perspective view of an operating device.

Referring by letter to the drawings, A designates a coupler head. As shown, it is bifurcated at its forward extremity. It has a shank or bar *a* which may be fastened to a car in the usual manner.

B designates a knuckle. It consists of an elbow lever fulcrumed at its angle by a pin *b* to the bifurcate extremities of the coupler head. The outer portion of the knuckle B may be forked, so that an ordinary coupling link may be inserted within it, and it is provided with holes for the reception of an ordinary coupling pin. The inner part of the knuckle is shown as tapering toward its extremity, and the end of this inner part is rounded as at *a'*, the object of thus rounding the extremity being to enable it to automatically force back a dog or block D by which the knuckle is to be retained in a locked position. The dog or block D extends upward from a rock-shaft D'. The rock-shaft D' has a bearing at one end in a projection *a*² formed in the coupling head, and is supported at the other end by passing through and fitting a hole in the side of the head. The outer end of the rock-shaft is provided with an arm *d* whereby it may be rocked. The arm *d* extends at substantially right angles to the dog or block D and serves as a counter-balance to return the said dog or block to a normal position, which, as here shown, is substantially vertical. The dog or block D at its upper end may move between two projections *a*³, *a*⁴,

in the coupler head, whereby it is sustained against lateral strain. It will be seen that when the knuckle is swung to a closed position the rounded portion *a'* will force the dog or block D rearward and allow the end of the inner portion of the knuckle to pass beyond it when the dog or block will resume its normal position and lock the knuckle. Obviously by pulling the arm *d* upward, by means of a chain or otherwise, the dog or block will be rocked backward out of contact with the knuckle so that said knuckle may be swung open.

We provide means for swinging the knuckle open during a movement of the dog or block D. This means, as here shown, consists of a link E having a pivotal connection with the knuckle adjacent the pin *b* and at its other end having a lost motion connection directly with the dog or block D. The link passes loosely through a vertically elongated hole *e* in the upper portion of the dog or block and at its end it is provided with a stop or bulb *e'* to prevent the dog or block from disengaging itself from the link. It will be seen that the stop or bulb *e'* is beyond the end of the inner portion of the knuckle and that the dog or block will not engage with said stop or bulb until the dog or block is forced from the knuckle. In operation the dog or block will be moved along the link until the knuckle is freed then a further movement of the dog will cause it to engage with the stop or bulb *e'* and draw the link longitudinally to swing the knuckle open.

By connecting the link directly with the dog or block we can make the rock shaft quite short as its portion within the coupler head need only carry the dog or block.

Having described our invention, what we claim is—

1. In a car coupler the combination with a coupler head, of a swinging knuckle, a rock lever, a dog or block on said rock lever to engage the knuckle, an arm on the outer end of the rock lever serving as a counterbalance for the dog or block and a link having connection with the knuckle and a lost motion directly with the dog or block, substantially as specified.

2. In a car coupler the combination with

the coupler head, of the swinging knuckle, the rock lever, the dog or block on said rock lever for engaging the knuckle and the link having a pivotal connection with the knuckle
5 and passing loosely through a hole in the dog or block and having a stop at its end, substantially as specified.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

CHARLES H. DALE.

FRANK A. FOX.

Witnesses:

CLARENCE R. FERGUSON,

ANTHONY GREF.