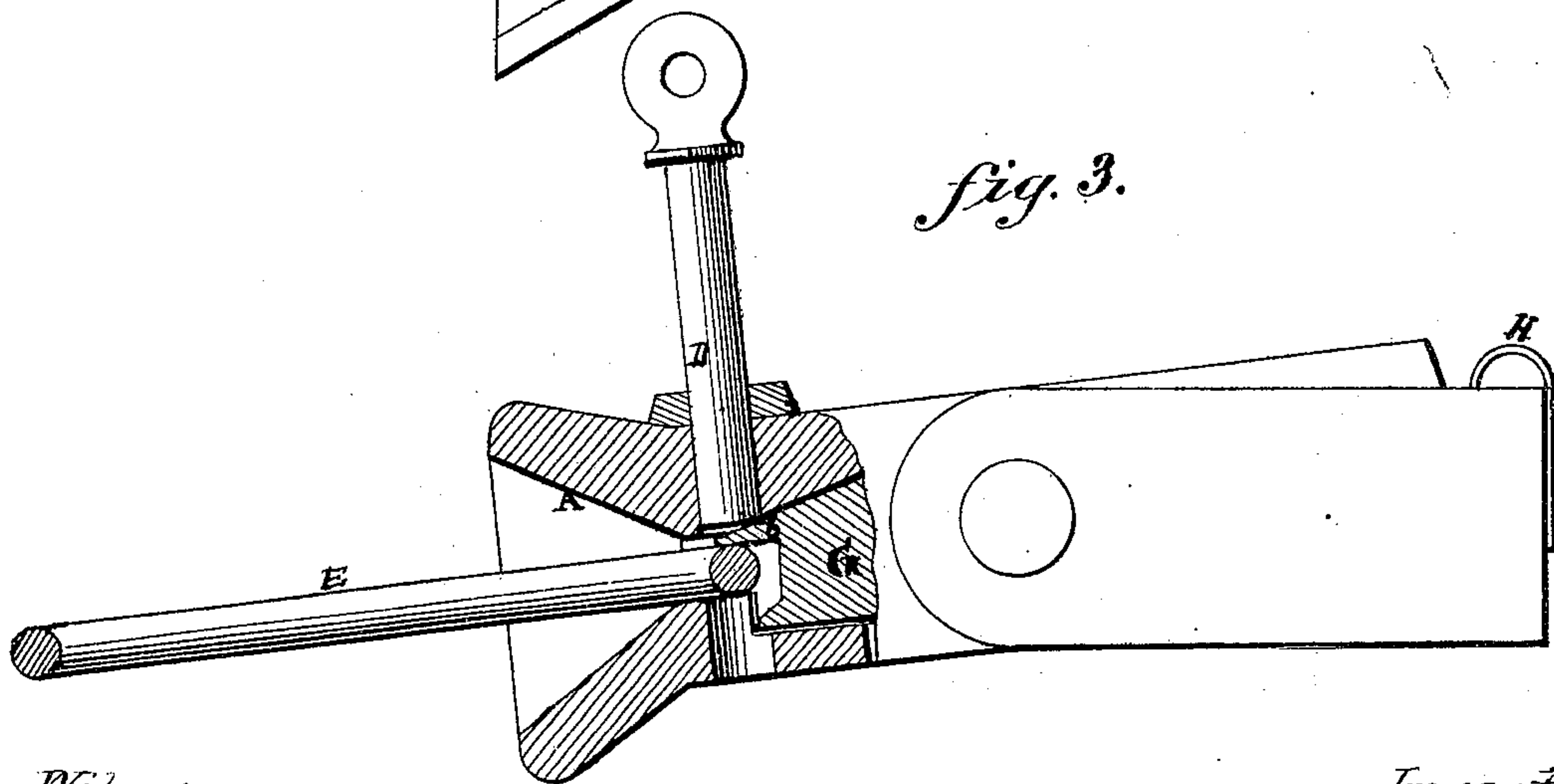
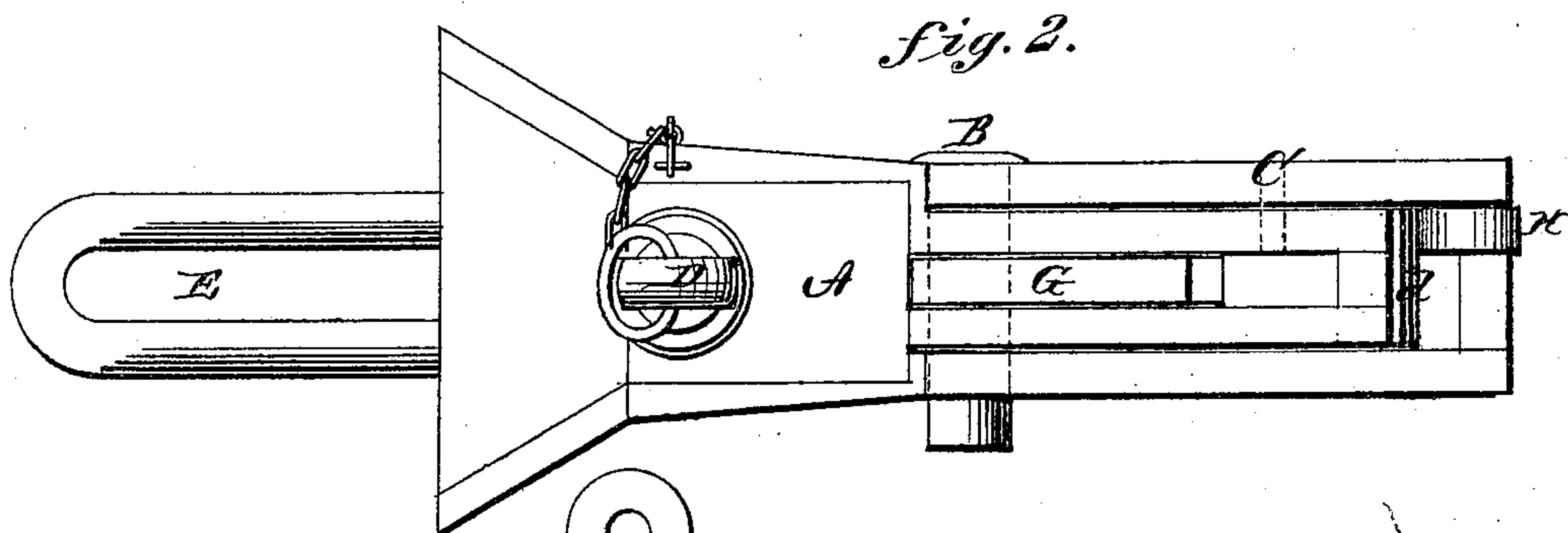
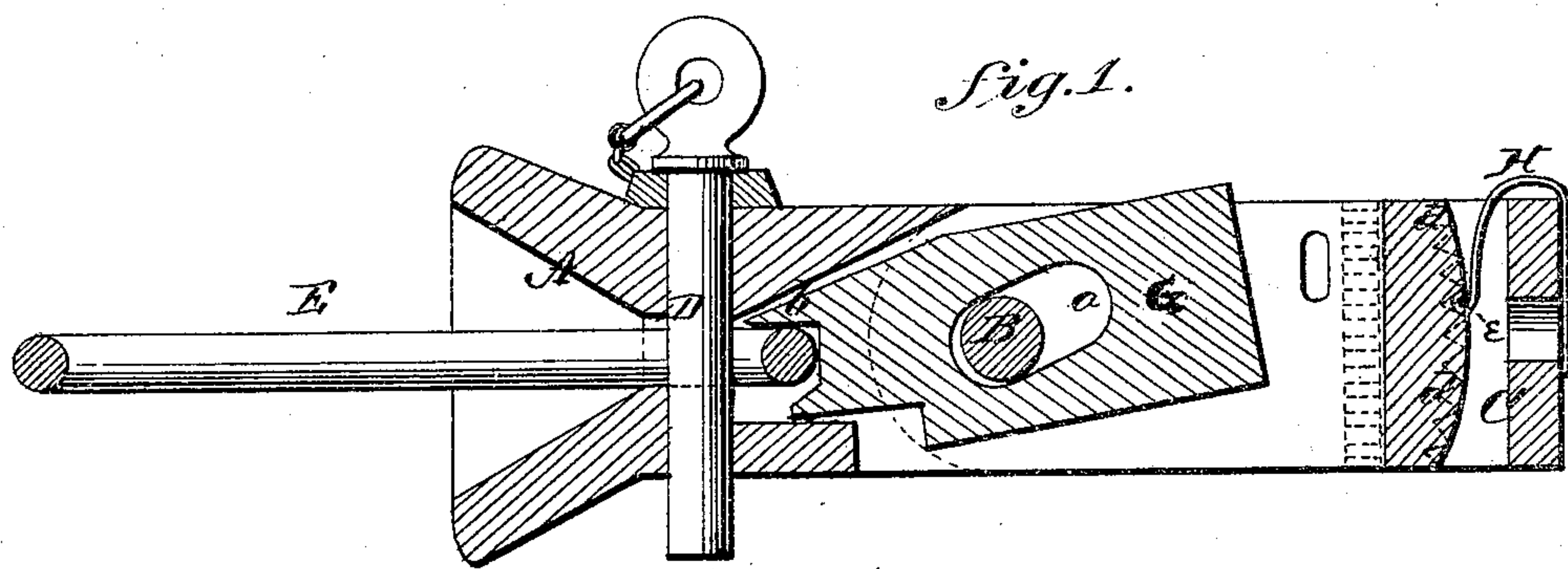


E. BICKELL.
Car-Couplings.

No. 141,312.

Patented July 29, 1873.



Witnesses
John M. Ellis
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UNITED STATES PATENT OFFICE.

ELIAS BICKELL, OF MILTON, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **141,312**, dated July 29, 1873; application filed May 14, 1873.

To all whom it may concern:

Be it known that I, ELIAS BICKELL, of Milton, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a car-coupling, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section, with notches both on side and end of bumper, as may be preferred; Fig. 2, a plan view; and Fig. 3, a side elevation partly in section, showing the pin in position for automatic coupling.

My invention has for its object making the ordinary pin and link car-coupling self-coupling and also self-adjusting for cars of different height.

A represents an ordinary bumper, held by means of a pin, B, in the draw-bar C. D is the coupling-pin, and E the link. The pin B in this case pivots the bumper A in the draw-bar C, and passes through a slide or tongue, G, placed within the bumper. This slide or tongue has an inclined elongated slot, *a*, through which the pin or bolt B passes. The tendency of the tongue G is to slide forward when the coupling-pin D is drawn out, which it is allowed to do by means of the slot *a*. This slot allows the slide to move forward far enough to come immediately beneath the pin-hole in the upper part of the bumper, so that the coupling-pin D can rest on the same. The front end of the tongue G is cut out, as shown in Fig. 1, to form an upper and a lower lip, the upper lip *b* projecting a suitable distance in front of the lower.

When the coupling-link E is inserted it en-

ters under the lip *b* of the tongue, and pushes the entire tongue toward the rear until the pin D will drop down of its own weight and couple the cars. The lip *b* will hold the coupling-link in a horizontal or nearly horizontal position, so as to enter the opposite bumper easily in coupling.

The rear end of the bumper A is made curved on a circle having the pin B for a center, and is provided with V-shaped notches *d d*, as shown. In the draw-bar is then arranged a spring, H, which may be either in the shape shown in the drawing, or it may be in half-elliptic form, and in either case a projection, *e*, is formed on the spring to fit in the notches on the bumper, thereby holding the bumper in any desired position to allow the coupling-link to enter a higher or lower bumper, as the case may be. If the link should be too high or too low to enter the opposite bumper, and strikes either above or below the mouth, this will cause the bumper to turn on its pivot, the spring H yielding to the pressure, and in this manner the bumper becomes self-adjusting.

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

1. The sliding tongue G having lip *b* at the front end, and an inclined elongated slot, *a*, through which the pin B passes that pivots the bumper in the draw-bar, substantially as and for the purposes herein set forth.

2. The curved end of the pivoted bumper A having notches *d d*, in combination with the spring H with projection *e*, substantially as and for the purposes herein set forth.

3. The combination of the bumper A, pin B, draw-bar C, tongue G with slot *a* and pin *b*, the notches *d d*, and spring H with projection *e*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ELIAS BICKELL.

Witnesses:

T. H. ALEXANDER,
EDM. F. BROWN.