

H. J. MORELAND.  
Tug-Links.

No. 217,020.

Patented July 1, 1879.

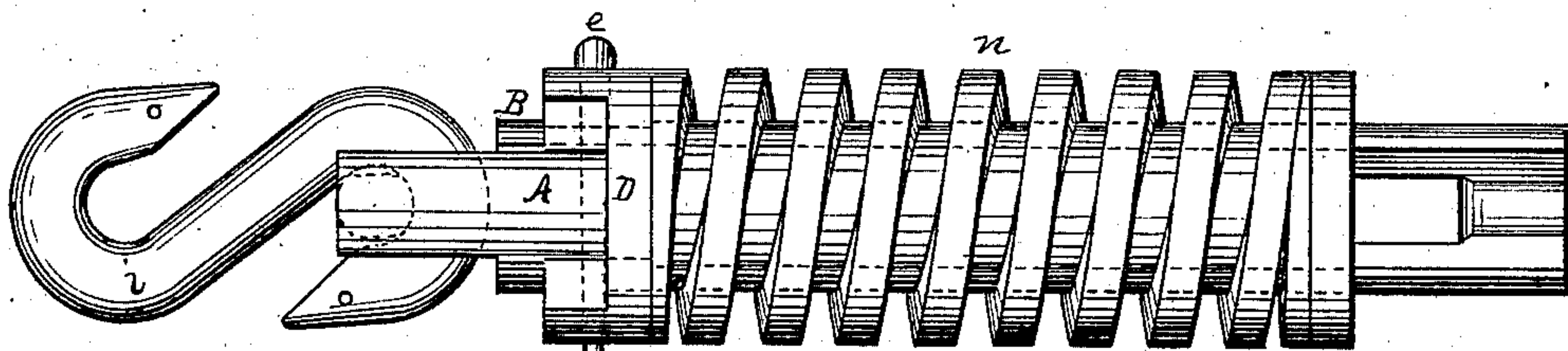


Fig. 1.

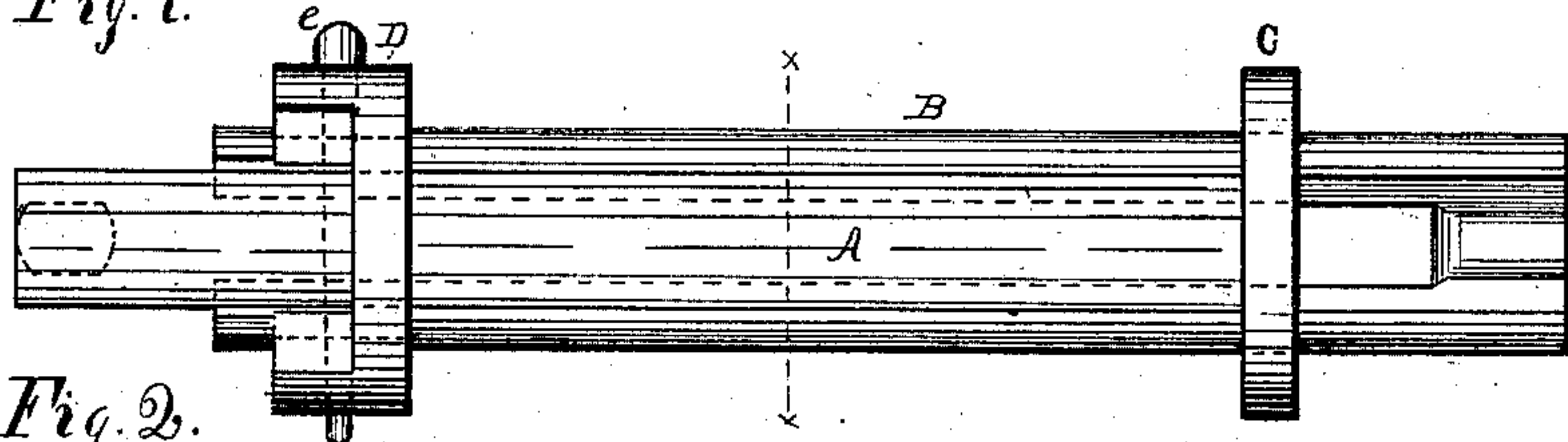


Fig. 2.

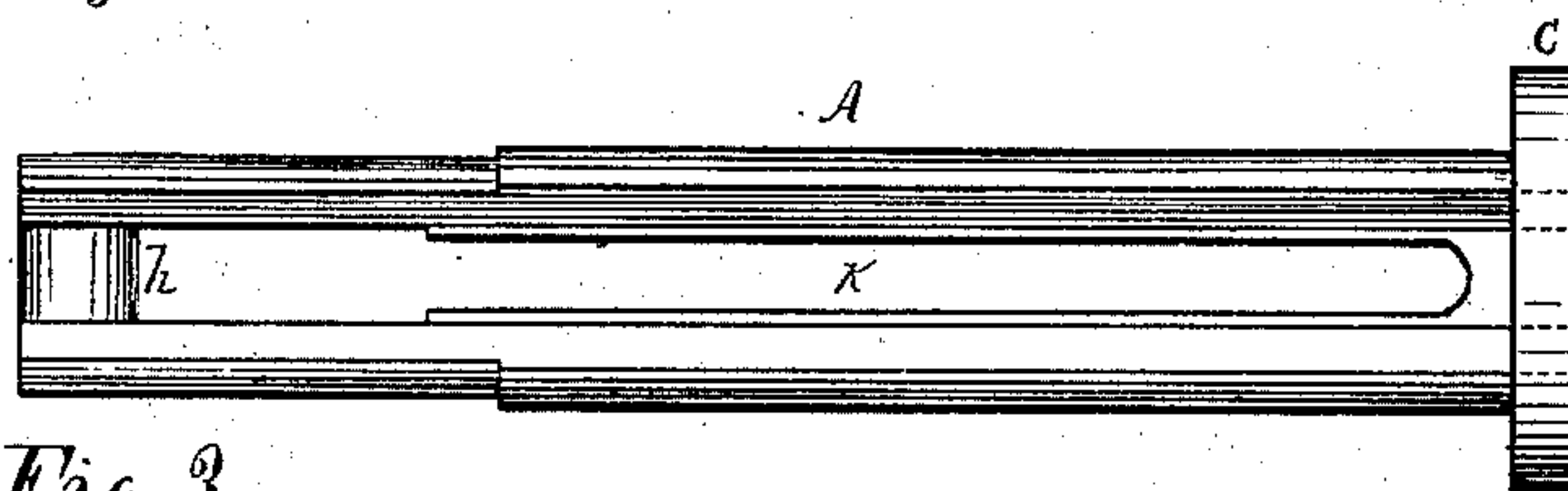


Fig. 3.

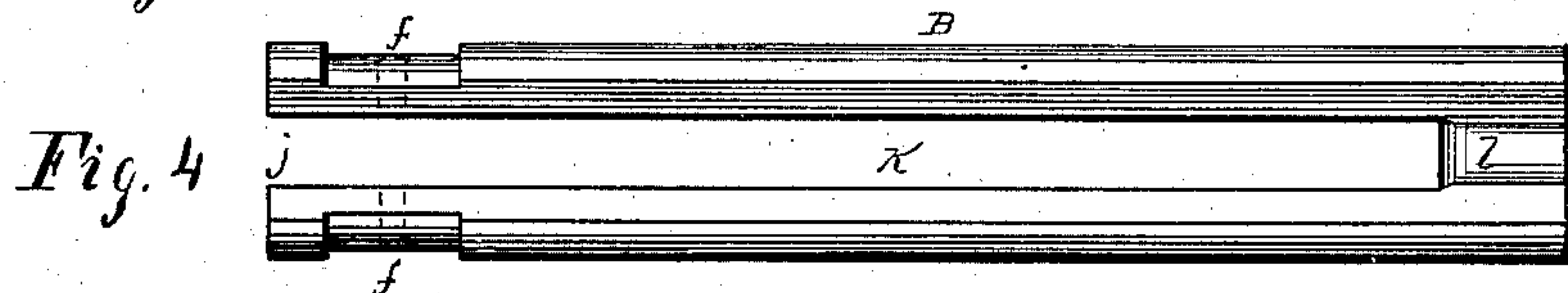


Fig. 4.

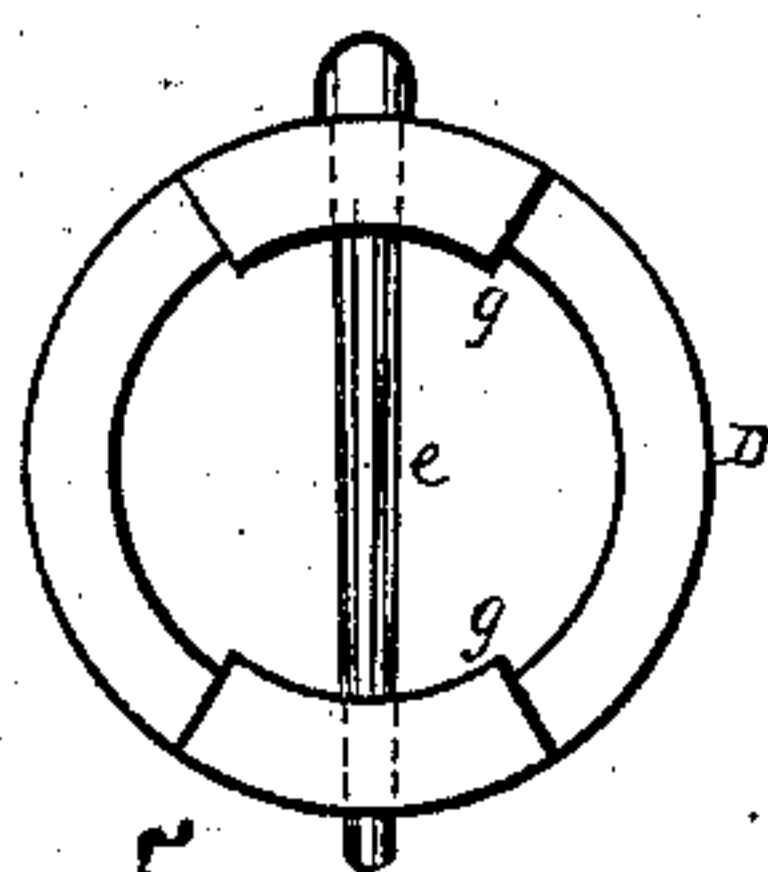


Fig. 5.

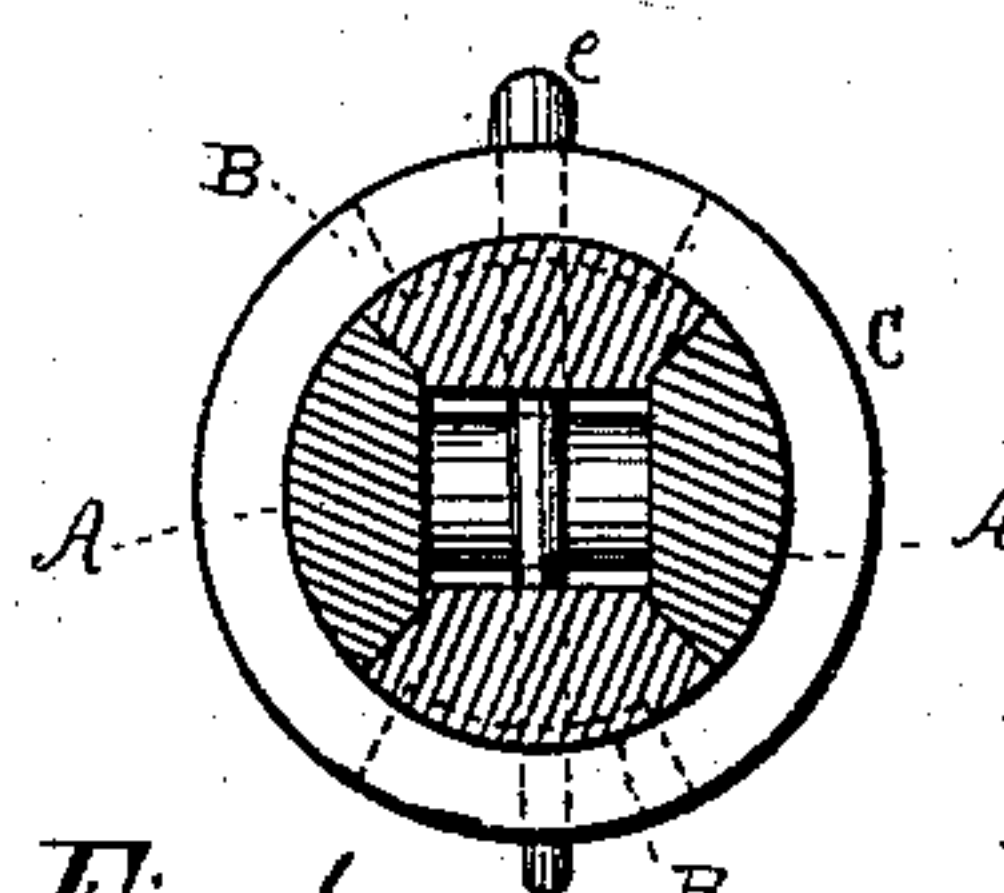


Fig. 6.

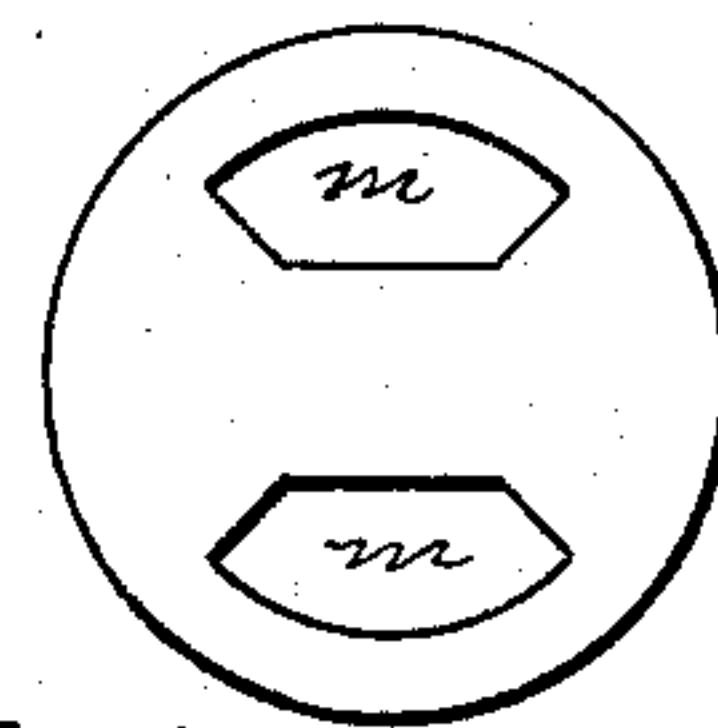


Fig. 7.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN TUG-LINKS.

Specification forming part of Letters Patent No. **217,020**, dated July 1, 1879; application filed May 8, 1879.

*To all whom it may concern:*

Be it known that I, HENRY J. MORELAND, of Pittsburg, in the county of Allegheny, State of Pennsylvania, have invented a new and useful Improvement in Tug-Links; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in tug-links; and consists of a hollow bar made in sections, susceptible of being elongated, and provided with collars, between which, on said bar, is placed a spiral spring, the whole so arranged that when the draft of the trace is exerted on the tug-link the bar is elongated and the spring is gradually compressed, whereby the horse is relieved from the jarring and concussion incident to the moving of a wagon or vehicle on a rough road.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a side view of the tug-link when completed. Fig. 2 is a side view of the same with the spiral spring removed. Figs. 3 and 4 are side views of the two parts forming the bar of the tug. Fig. 5 is an end view of the detachable collar. Fig. 6 is a transverse section of the tug-bar at line *x x* of Fig. 2. Fig. 7 is an end view of one part of the tug.

The tug-bar, consisting of the parts A and B, is recessed or slotted, as indicated at K, and provided with beveled faces on its side walls, so that when placed together the beveled faces fit each other, as indicated in Fig. 6.

The outer wall of the parts, when fitted to-

gether, forms a true circle. The part A of the tug is provided with a collar, C, permanently secured thereto, and the part B of the tug is furnished with a recess at *f* for the collar D. The parts A and B are placed together by inserting the ends *j* of the part B in the openings *m* of the collar C. When the parts A and B are placed together the coil-spring *n* is placed over the tug-bar, and the collar D placed over the two parts of the bar and turned one-fourth around, so that the inward projections *g* of the collar D come into the recesses *f*. The pin *e* is then inserted, as indicated in Figs. 2, 5, and 6. The tug is then completed, *i* representing the ordinary hook, one end of which is hooked over the cross-bar *h* of the part A.

Having thus described my improvement, what I claim is—

1. A tug-link composed of the bars or parts A B, beveled so as to fit together, as shown, the bar A provided with a fixed collar, C, at one end, and the bar B passed through said collar and carrying upon one end a detachable collar, D, the said bars being encircled by the spring, which is arranged between said collars, as shown and specified.

2. The detachable collar D, having inward projections *g*, in combination with the parts A and B and recesses *f*, substantially as herein described, and for the purpose set forth.

3. The detachable collar D, having inward projections *g*, in combination with the parts A and B, recesses *f*, and pin *e*, substantially as herein described, and for the purpose set forth.

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Witnesses:

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