

P. LIVENGOOD.  
Car-Coupling.

No. 218,288.

Patented Aug. 5, 1879.

Fig. 1.

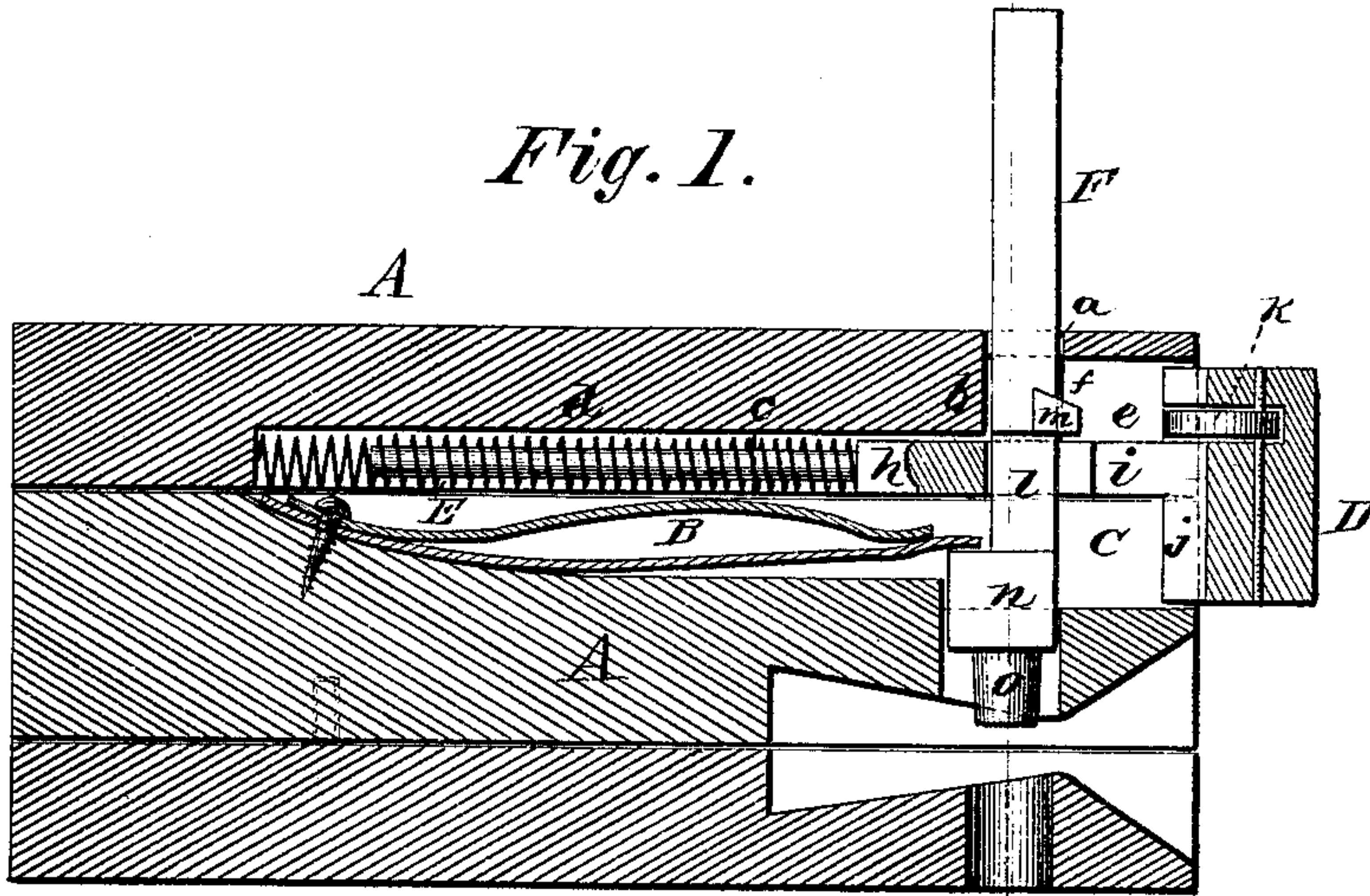


Fig. 2.

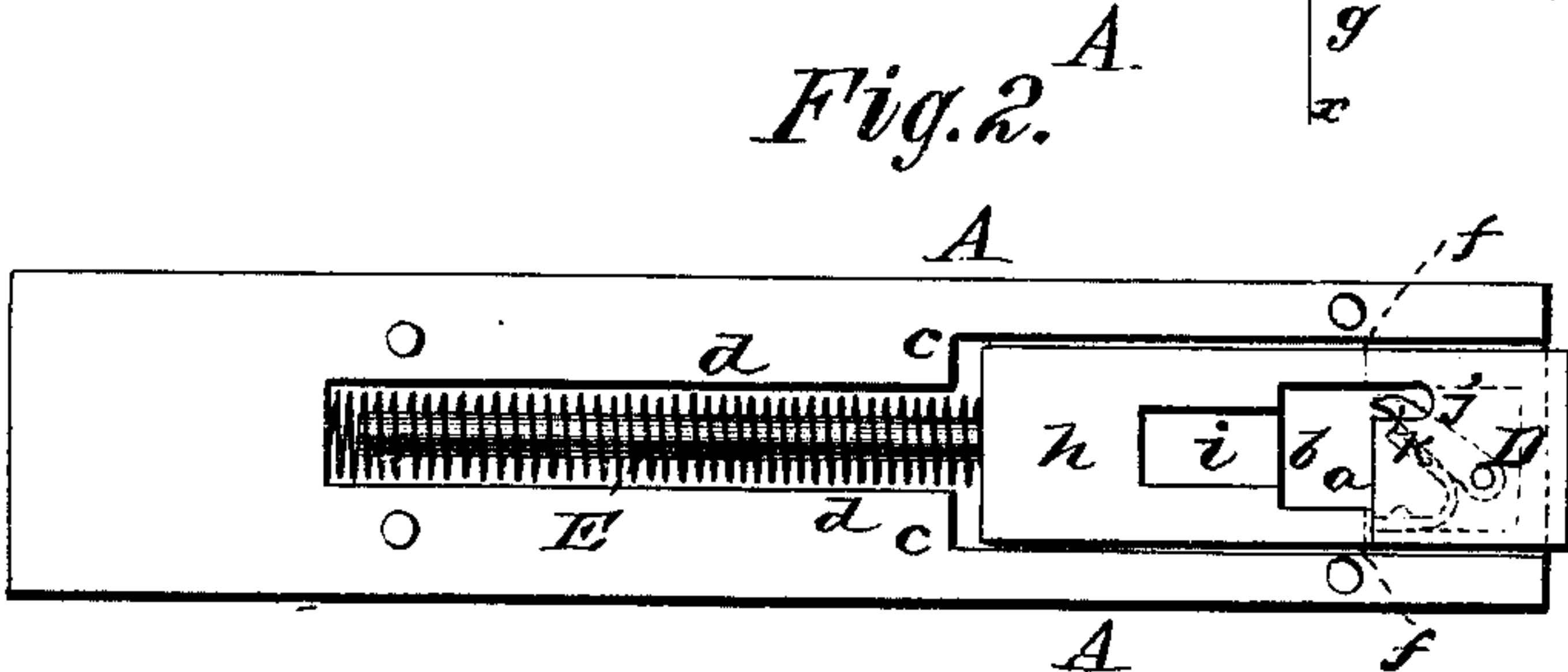


Fig. 3.

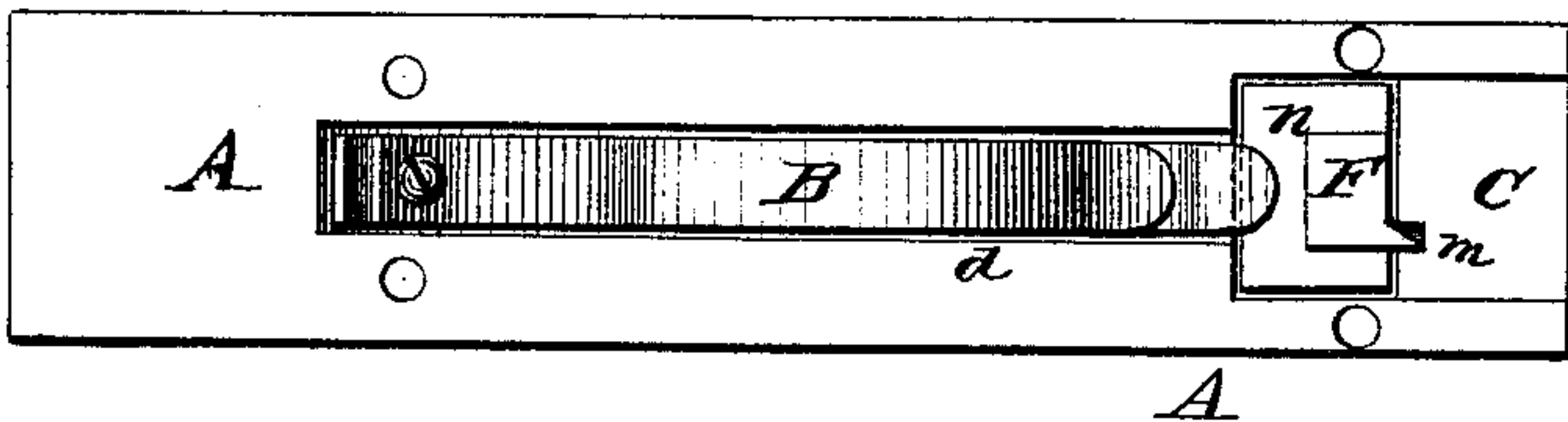


Fig. 6.

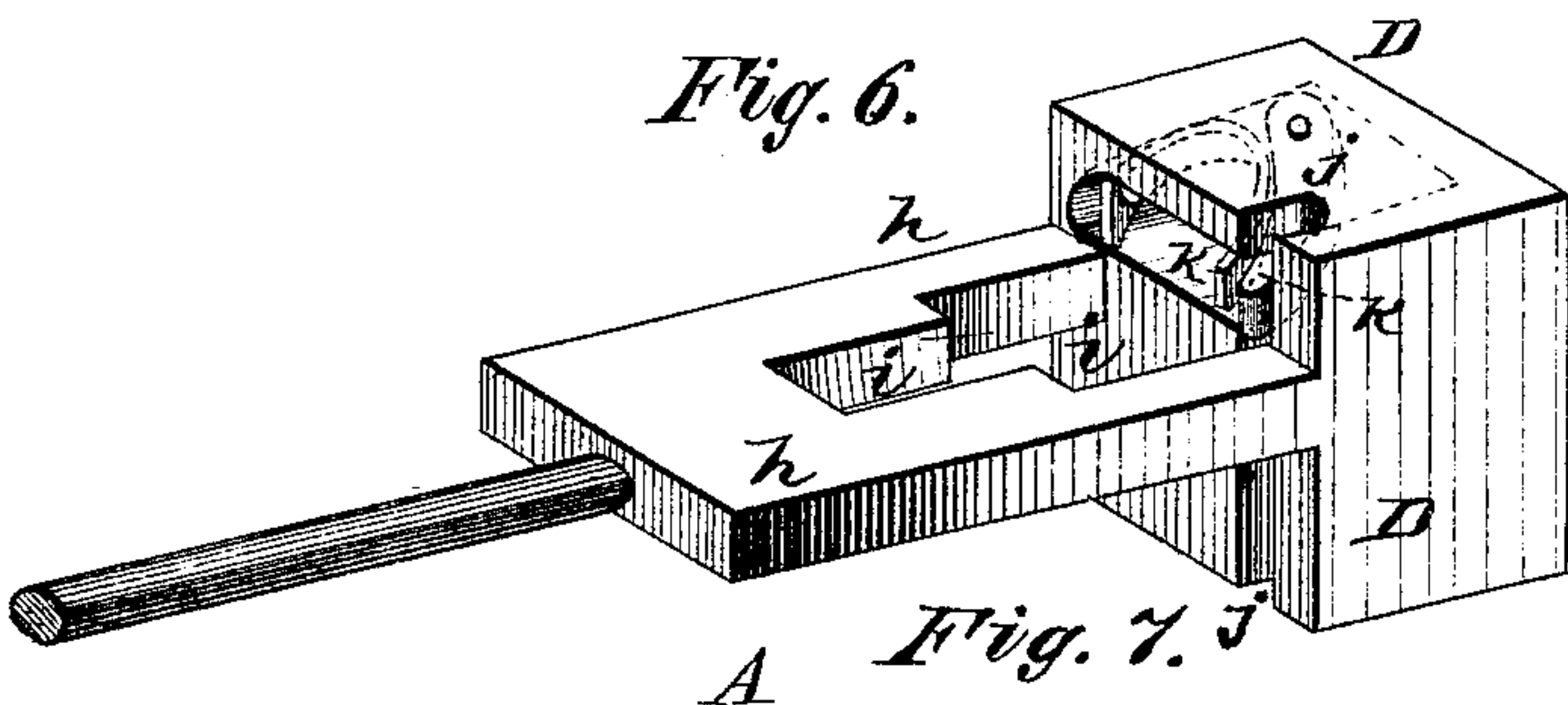


Fig. 7.

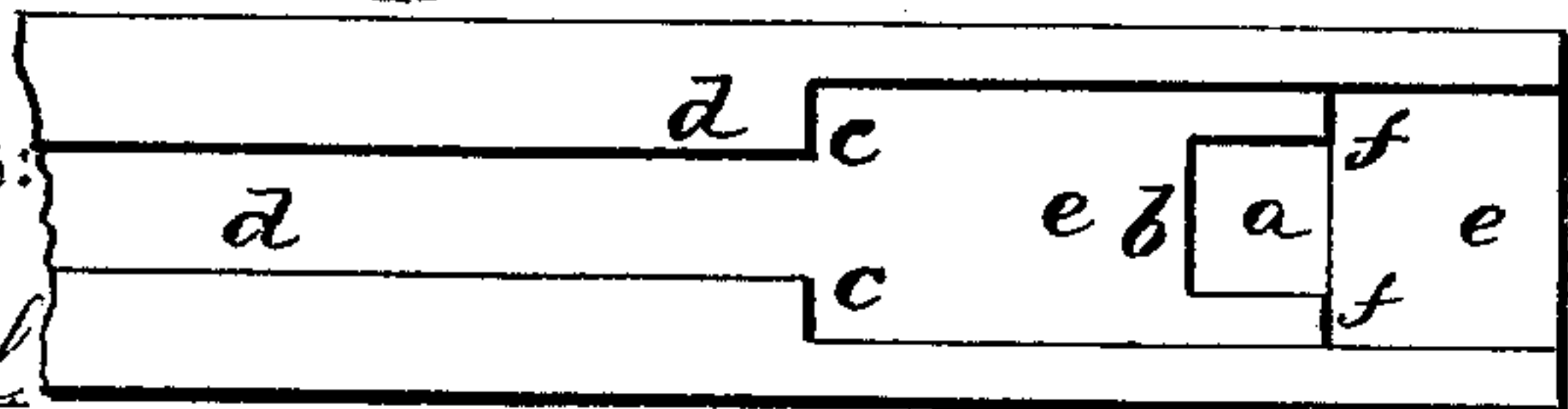


Fig. 4.

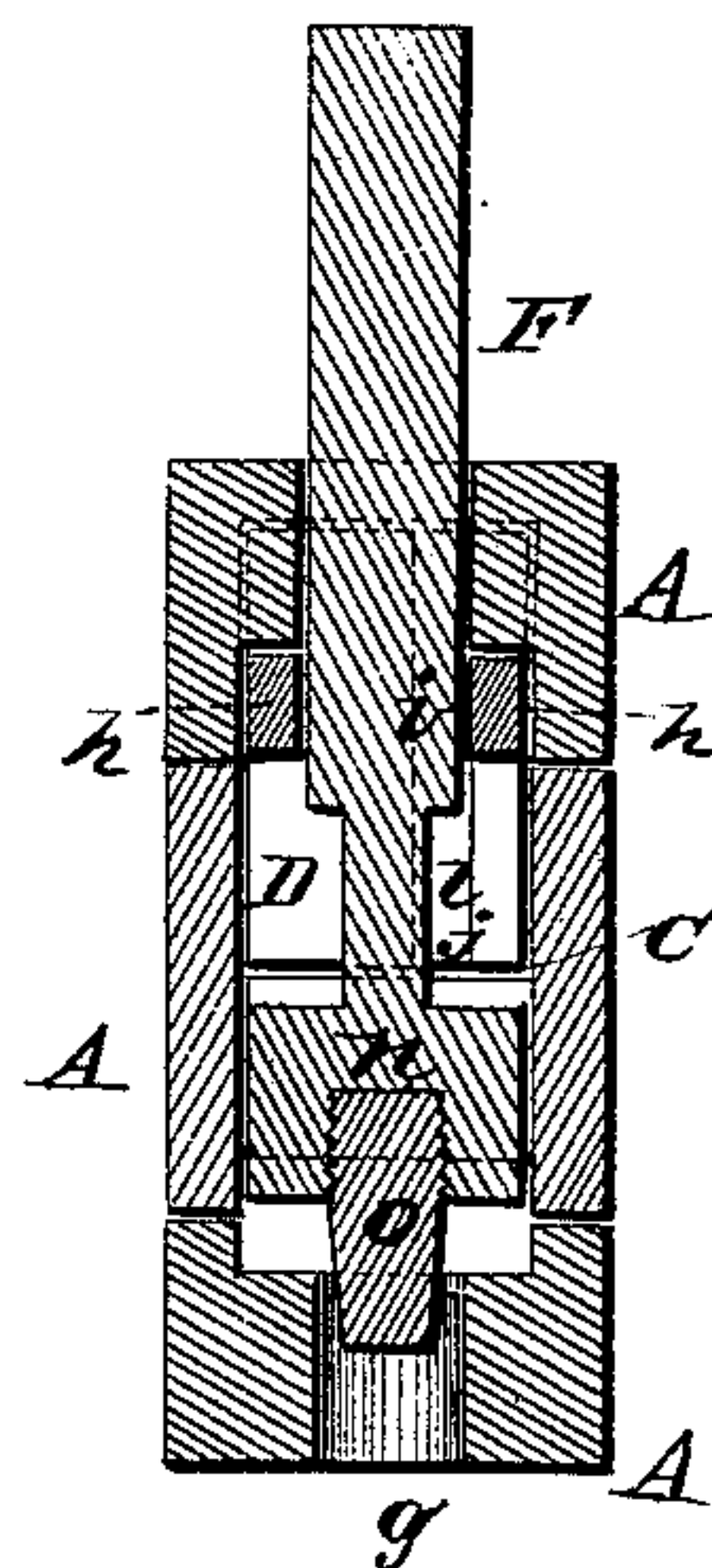
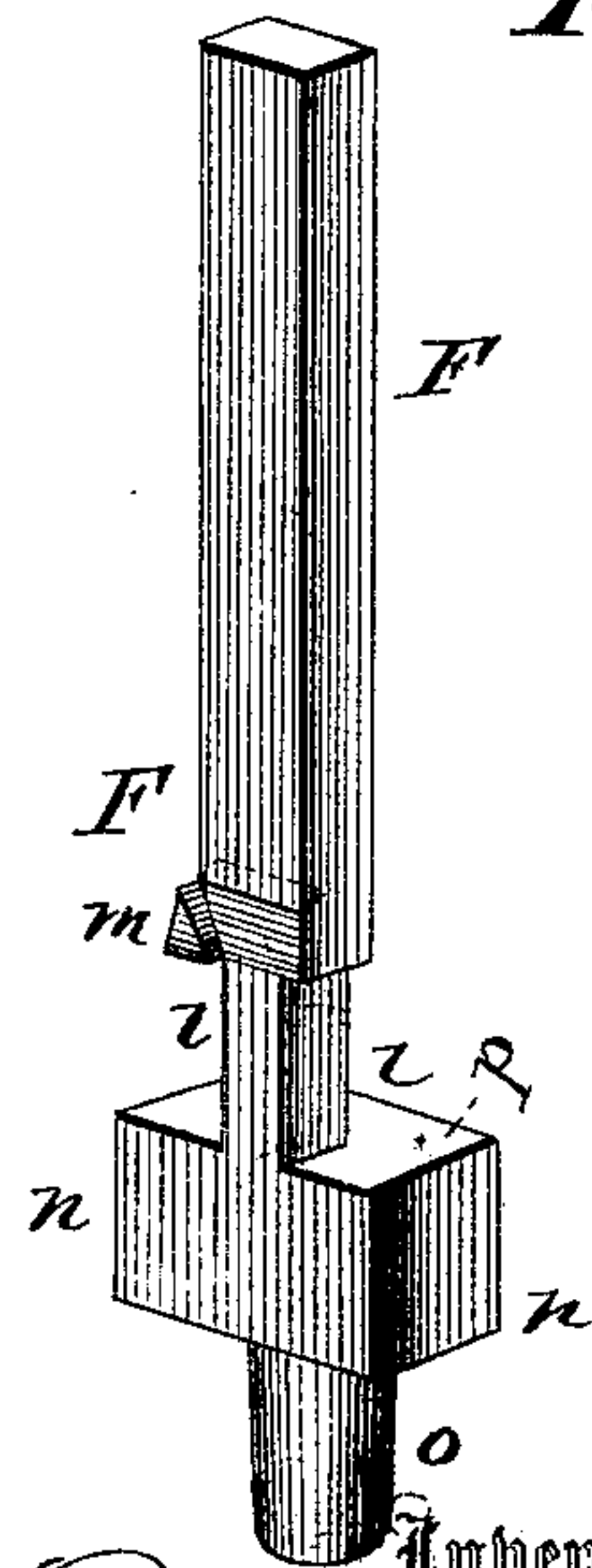


Fig. 5.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 218,288, dated August-5, 1879; application filed June 13, 1879.

*To all whom it may concern:*

Be it known that I, PETER LIVENGOD, of Midway, in the county of Davidson and State of North Carolina, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in car-couplers; and it consists in the combination and arrangement of parts, as will be hereinafter more fully set forth.

In the annexed drawings, which fully illustrate my invention, Figure 1 is a central vertical section. Fig. 2 is a bottom view of the upper part and the bumper. Fig. 3 is a top view of the center part. Fig. 4 is a transverse vertical section on the line *x x*, Fig. 1. Fig. 5 is an enlarged perspective view of the pin. Fig. 6 is an enlarged perspective view of the bumper, and Fig. 7 is an under-side view of the upper part.

A represents the body of the coupler, which is an ordinary draw-head, provided with a funnel-shaped mouth, of such construction that with the assistance of the pin F, held in place by spring B, it will always carry its link in a horizontal position. This body is composed of three parts, attached together in any suitable manner. The upper part is provided with an opening, *a*, passing through from its top to its bottom, and the under side of said part is cut away to form a shoulder, *b*. Another shoulder, *c*, is formed by cutting to a less depth from off the shoulder *b*. A recess, *d*, is formed, extending from the shoulder *c* nearly to the end of the part. The central part is provided with an opening, *e*, of larger diameter than the opening in the upper part, but corresponding therewith as to location, and is provided with a cut-away portion and shoulder, *f*, as shown.

B is a spring, recessed in the upper side of the central part, said spring being fastened at one end and free at the other, the free end of the spring extending for a short distance into the opening *e*. The under side of this central

part is provided with a recess and shoulder corresponding on the upper side of the lower part, which, when the parts are placed together, form a cavity, C, for the link to rest in, and which supports the same. The lower part has an opening, *g*, to receive the coupling-pin, of smaller diameter than the opening in the central part.

The openings in the upper and central parts are made square, while the opening in the lower part is made round.

D represents a bumper or slide, having the extension *h* with the slot *i*, as shown. In the inner side of this bumper D is formed a groove, *j*, in which the end of a spring-catch, *k*, recessed in the inner side of the bumper, works.

Upon the rod terminating the extension *h* is placed a coiled spring, E. The bumper and extension, with spring, fit into the recesses in the upper and central parts, heretofore described, as shown.

F represents the coupling-pin, having the cut-away portion *l* and a lug, *m*, to engage with the spring-catch *k*. The upper portion of this pin is passed through the slot *i* until it rests against a shoulder, *n*, formed on said pin. Below the cut-away portion *l* is formed a shoulder, *p*, against which the spring B acts to force the pin down when the same is released by the bumper D, being forced back when the cars come together. Below this shoulder *n* is formed a pin, *o*, which holds the link when the cars are coupled.

When the parts are placed together, the recesses heretofore described are so arranged as to fit neatly around the coupling-pin and bumper and hold them in proper position, allowing them sufficient room for operation.

It will be observed that the action of the device is very simple, there being but two actions—one horizontal and the other perpendicular. By raising the pin perpendicular motion is caused, followed immediately by horizontal.

The catch *k* is used to stay the pin when the cars stand in such a close position that it will not allow the bumper or slide to act. This is then simply done by raising the pin slightly higher than when the bumper or slide can act, and then the catch will operate; and as soon as the cars move apart, so as to allow the bumper



or slide to act, the catch is relieved, and the pin falls into its proper place again.

The pin may be raised by any method, but in such a manner as to enable the operator to stand on either side of the car entirely out of danger.

As the lower portion of the pin, or that which holds the link, is most liable to wear, it may be made with a screw-thread and fitted into the shoulder *n*; or the pin may be passed through the entire length of the square portion of the pin, let down from the top, so that in case the automatic part should be in such a condition or position that it would be impossible for it to act, the round pin to hold the link could be operated from the top until necessary repairs could be made to the device.

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

1. In a car-coupler, the body A, in combination with the bumper D, having groove *j* and spring *k*, extension *h*, slot *i*, coupling-pin F, having lug *m*, and springs B E, substantially as and for the purpose set forth.

2. In a car-coupler, the body A, having the opening *a e g* and cavity C, in combination

with the bumper D, coupling-pin F, pin *o*, and springs B E, substantially as and for the purpose set forth.

3. In a car-coupler, the bumper D, having extension *h*, slot *i*, groove *j*, and spring-catch *k*, in combination with the coupling-pin F, having lug *m*, cut-away portion *l*, and shoulder *n*, substantially as and for the purpose set forth.

4. In a car-coupler, the coupling-pin F, having cut-away portion *l* and shoulder *p*, in combination with the spring B, bumper D, and spring E, substantially as and for the purpose set forth.

5. In a car-coupler, the bumper D, having groove *j*, spring-catch *k*, and extension *h*, with slot *i*, in combination with the coupling-pin F, having the lug *m*, cut-away portion *l*, and shoulder *n*, and the springs B E, the whole working in the body A, substantially as and for the purpose set forth.

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

PETER LIVENGOD.

Witnesses:

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E. C. LUTZ.