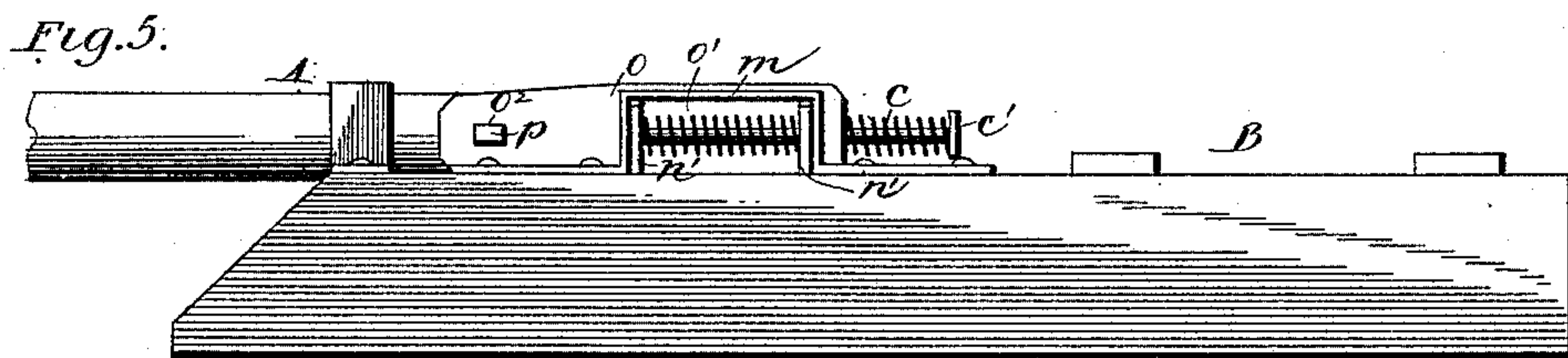
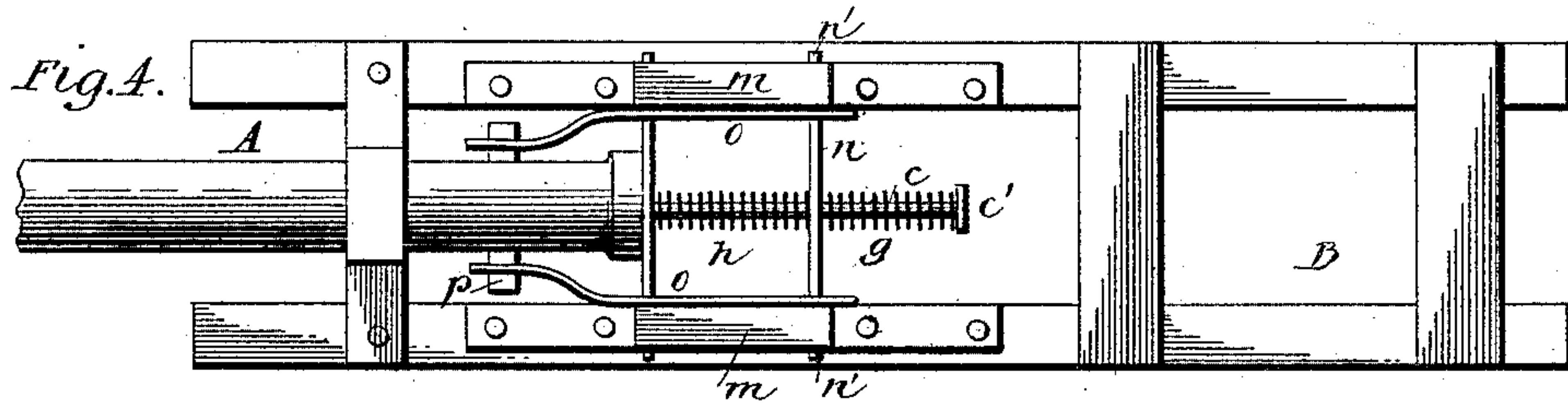
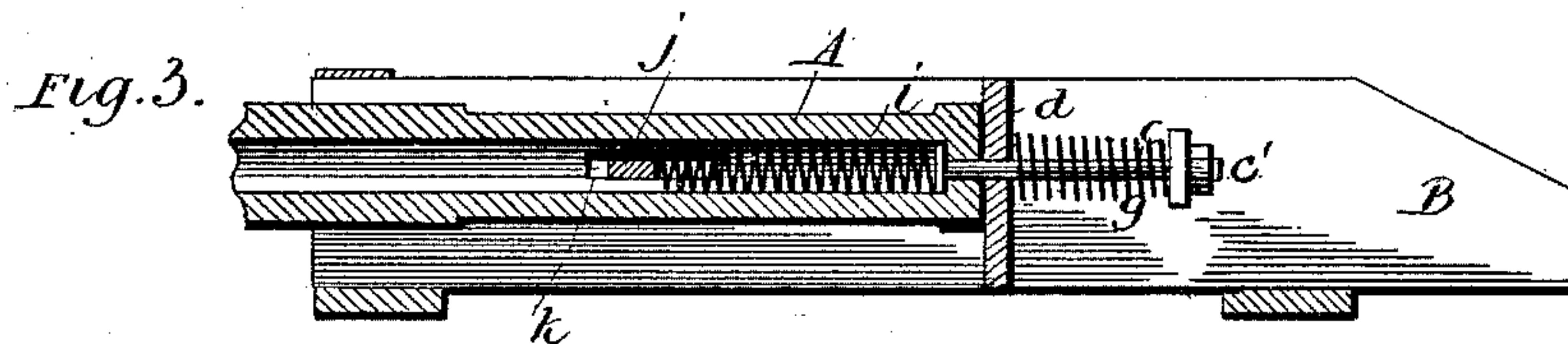
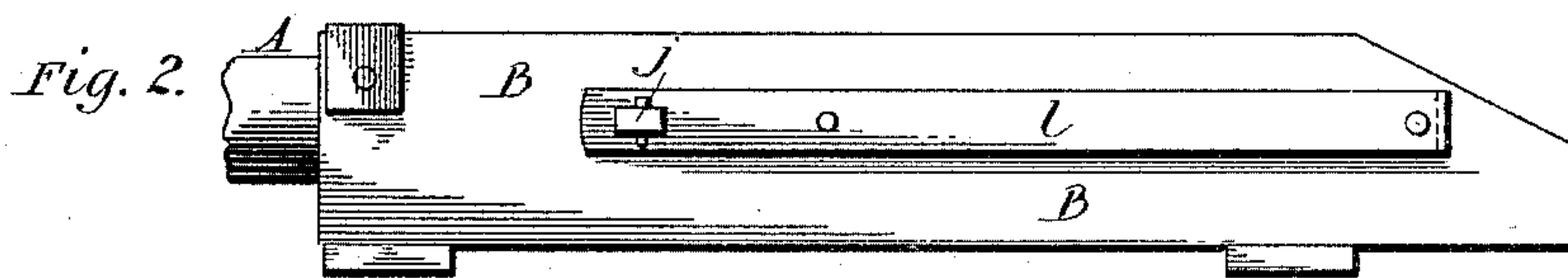
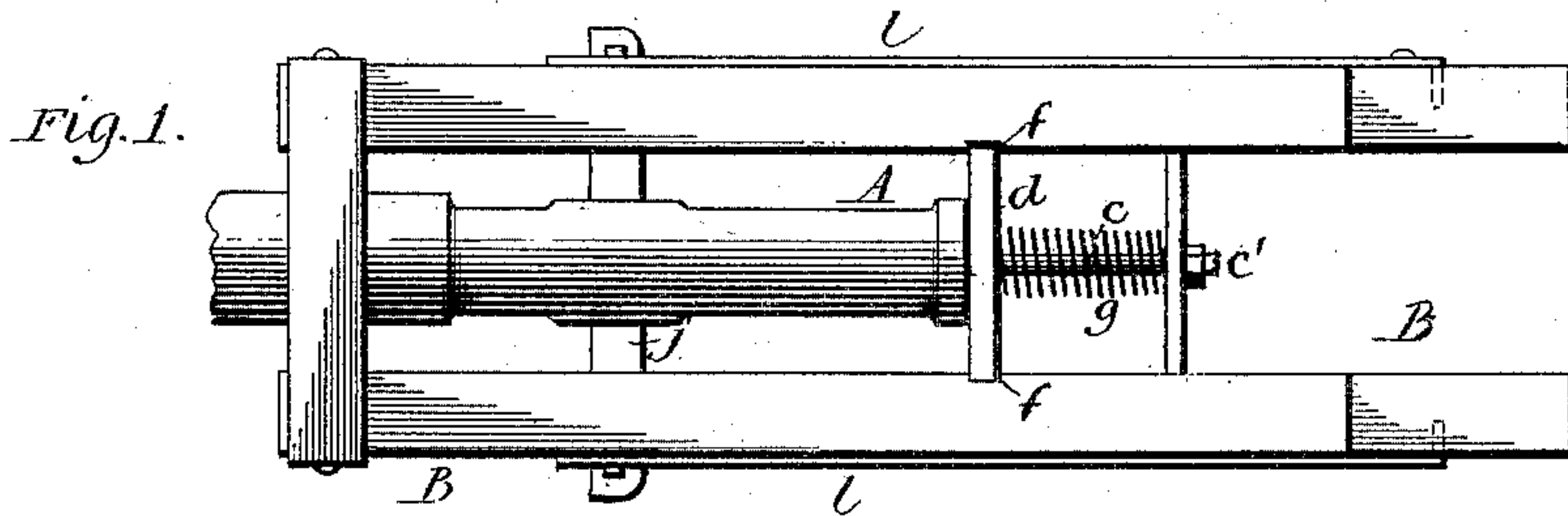


(No Model.)

R. N. CROOK.
DRAW BAR FOR CAR COUPLERS.

No. 436,753.

Patented Sept. 16, 1890.



Witnesses

Wm. Norton
M. C. Brundage

Inventor

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his Attorney

UNITED STATES PATENT OFFICE.

ROBERT N. CROOK, OF ALEXANDRIA, VIRGINIA, ASSIGNOR OF ONE-HALF TO
ALEXANDER LYLES, OF SAME PLACE.

DRAW-BAR FOR CAR-COUPLERS.

SPECIFICATION forming part of Letters Patent No. 436,753, dated September 16, 1890.

Application filed June 18, 1890. Serial No. 355,813. (No model.)

To all whom it may concern:

Be it known that I, ROBERT N. CROOK, a citizen of the United States, residing at Alexandria, in the county of Alexandria and State of Virginia, have invented certain new and useful Improvements in Draw-Bars for Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to draw-bars for car-couplers and to safety attachments therefor, and has for its object the prevention of the entire disconnection of the draw head and bar from the car through the accidental breakage or misplacing of any of the parts constituting the coupling devices.

It is well known to those versed in the art that many accidents to trains have occurred and are constantly occurring by reason of the pulling out of the draw head and bar, which, falling upon the track, wrecks or disables a car or cars, and the result is loss of time, money, and in some cases loss of life. The greater number of draw-heads in present use are provided with a headed spindle which confines and compresses a spring to relieve the shock caused by starting and increasing speed, and so much strain is given to the head on the spindle that it is constantly breaking off, and the result is as above stated. To obviate these difficulties, I have devised means for preventing the entire withdrawal of the draw head and bar, even after the headed spindle has become broken.

To this end my invention consists in certain new and novel details of construction and operation, all of which will clearly appear from the following description, drawings, and claims.

In the accompanying drawings, Figure 1 indicates in plan view my draw-bar and safety attachment; Fig. 2, a side elevation of the same; Fig. 3, a central longitudinal vertical section. Figs. 4 and 5 show, respectively, plan and side views of a modified form of construction.

Similar letters of reference in all the figures indicate similar parts.

Referring first to Figs. 1 to 3, inclusive, A indicates the draw-bar, supported in a frame B, which is bolted or otherwise secured to the bottom of a car. The draw-bar terminates at its inner end with a draw pin or spindle *c*, which passes through and is supported by the plate *d*, which is held in grooves *f* in the frame. The spindle *c* is provided at its outer end with a head *c'*, which may be made integral, or which may be a nut or a key, as preferred. Between the plate *d* and head *c'* and encircling the spindle is a spring *g*, which is compressed by the outward pull of the draw-bar.

The draw-bar is bored out centrally for nearly its entire length for the reception of the spring *i*, which is compressed by the action of the bar *j*. This bar passes through the slots *k* in the draw-bar, and through the frame B. To relieve the strain of the bar *j* upon the frame, I provide yokes *l*, which are connected at one end to the rear portion of the frame, preferably by having the rear ends bent and inserted in the frame, as shown, and then by bolting them to the frame. The other or free ends of the yokes are provided with eyes which encircle the projecting ends of the bar *j*, and thus take the strain from the frame.

The operation is as follows: If at any time the headed spindle should break, the draw-bar would ordinarily fly out and drop to the ground, but is prevented from doing so by the auxiliary spring, which is compressed by the bar passing through the draw-head and connected to the frame and yokes.

Referring now to the description of Figs. 4 and 5, A indicates the draw-bar, and B the frame. Mounted upon the top of the frame are boxes *m*, which are adapted to form guides for the reduced portion *n'n'* of the plates *n n*. The spindle *c* on the end of the draw-bar passes through these plates and is provided with the draft and buffer springs similar to those previously described. The yokes *o* pass around the reduced portion of the plates and allow the sliding of the plates within the rectangular opening *o'*. Eyes *o²* in the arms of the yokes receive the pin *p* on the draw-head. The operation of this device is as follows: As soon as the spindle-head breaks, the pin *p* on the draw-head pulls on the yokes *o*, which in

turn pull on the plates n' , and these plates being held by the boxes m it will be seen that the draw head and bar cannot now become detached.

5 I claim—

1. The combination, with the draw-bar having the internal spring and having the draw-spindle and the draft and buffersprings thereon, of the frame having the two compressing-plates and the compressing-bar, all as and for
10 the purpose set forth.

2. The combination, with the draw-bar, slotted, as described, and having the internal spring, the draw-spindle, and the draft and
15 buffer springs thereon, of the frame having the two compressing-plates, the compressing-bar, and the yokes, all as and for the purposes set forth.

3. The combination of the draw-bar having the draw-spindle and draft and buffer
20 springs, and the pin p with the frame having the boxes thereon, and with the compressing-plates and the yokes, all as and for the purposes set forth.

4. In a draw-bar of the class described, having the headed draw-spindle and draft and
25 buffer springs, an auxiliary spring carried by the draw-bar, and means, substantially as described, to compress the spring upon the breaking of the draw-spindle.

In testimony whereof I affix my signature in
30 presence of two witnesses.

ROBERT N. CROOK.

Witnesses:

ARTHUR BROWNING,
F. L. BROWNE.