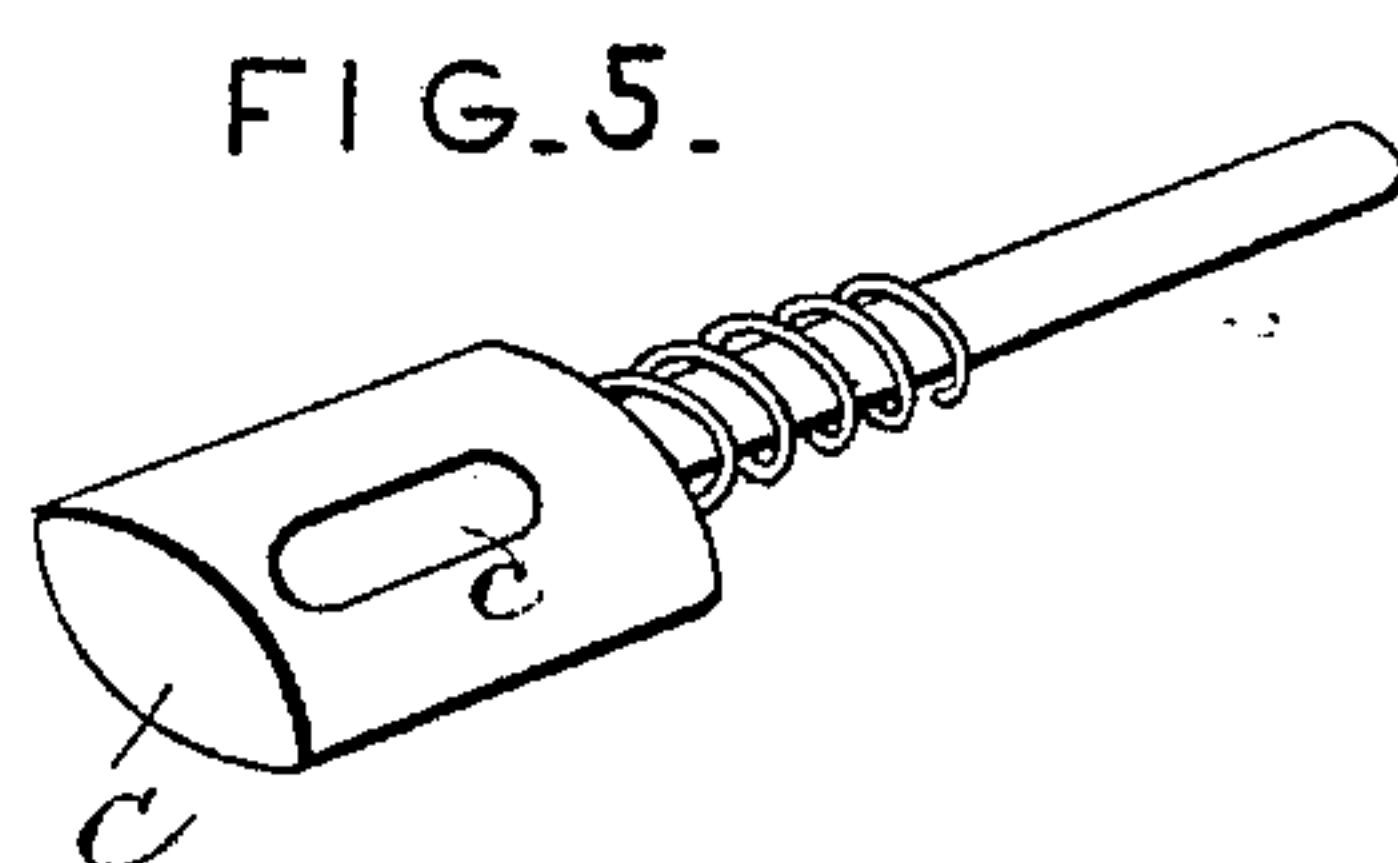
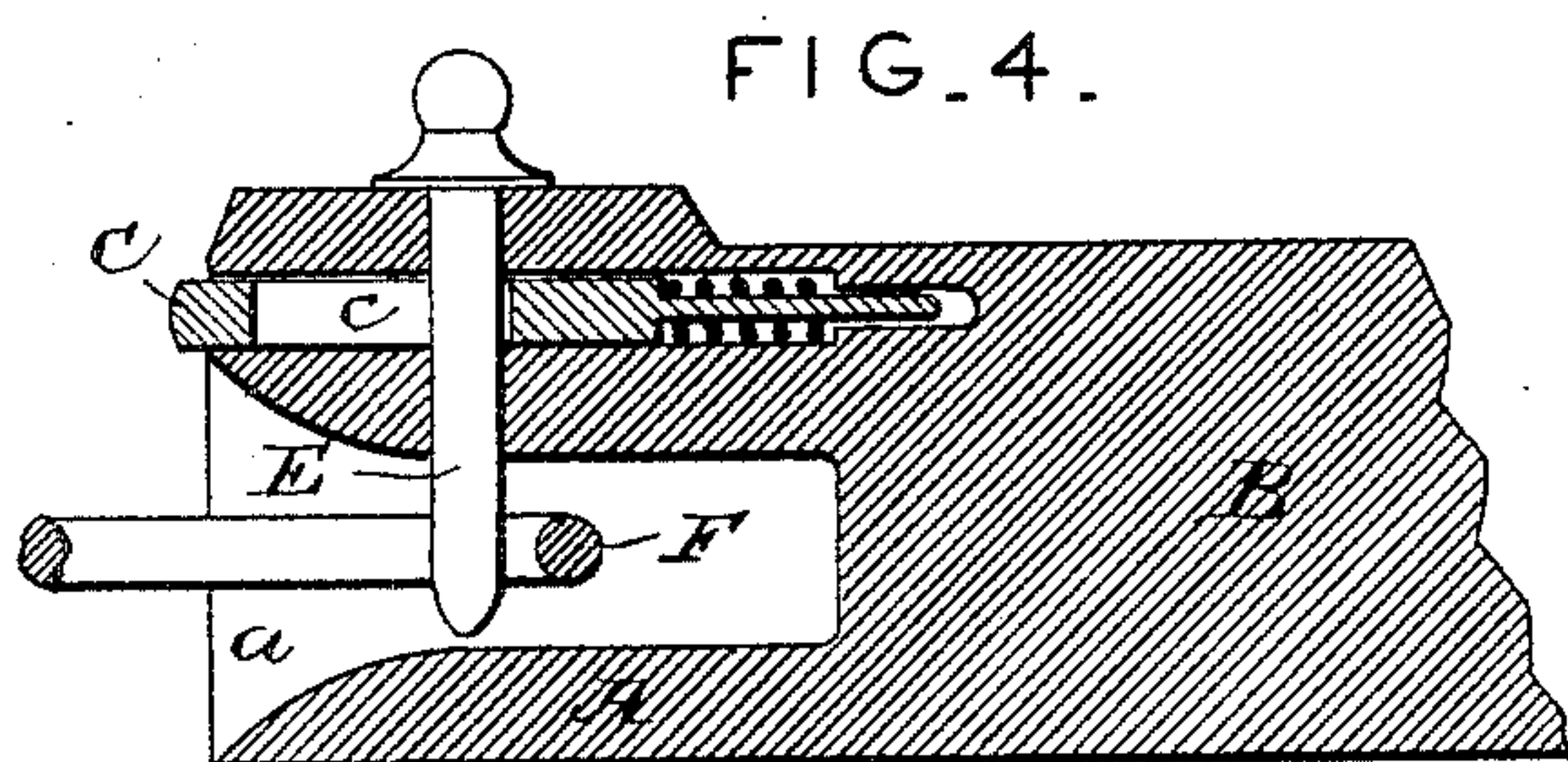
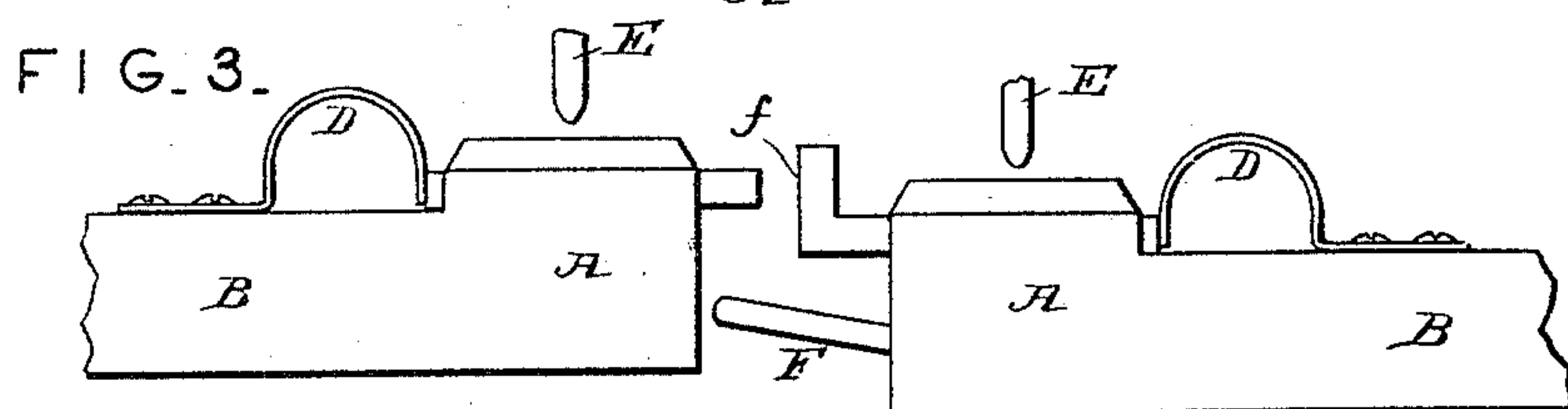
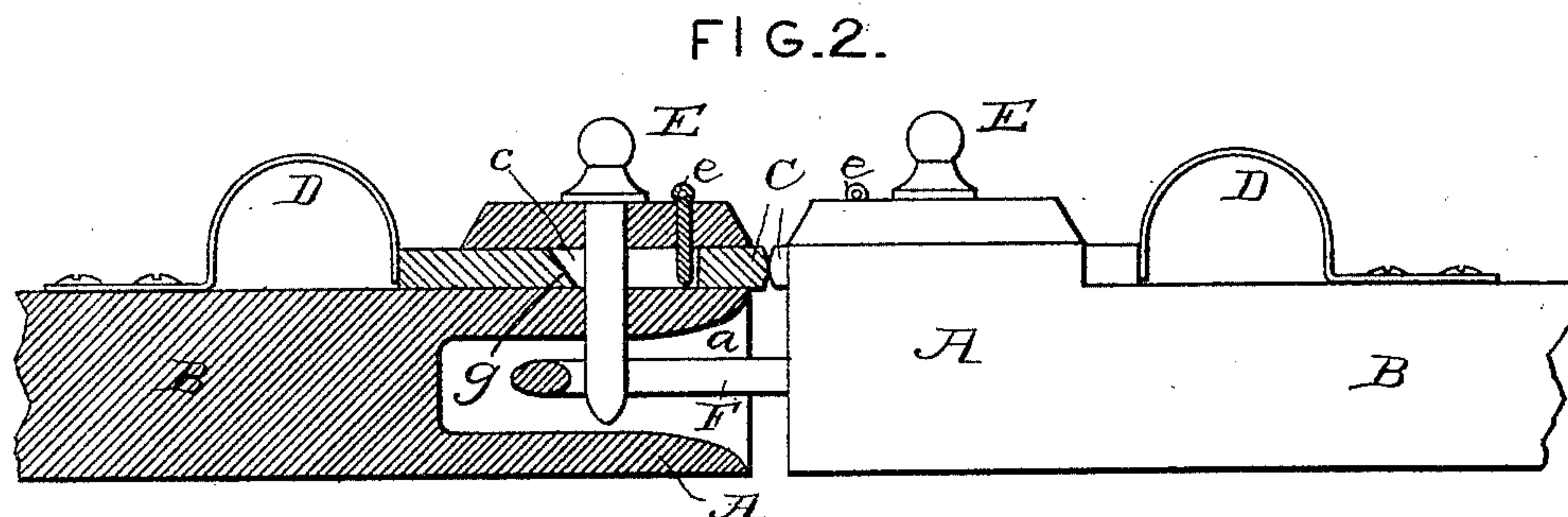
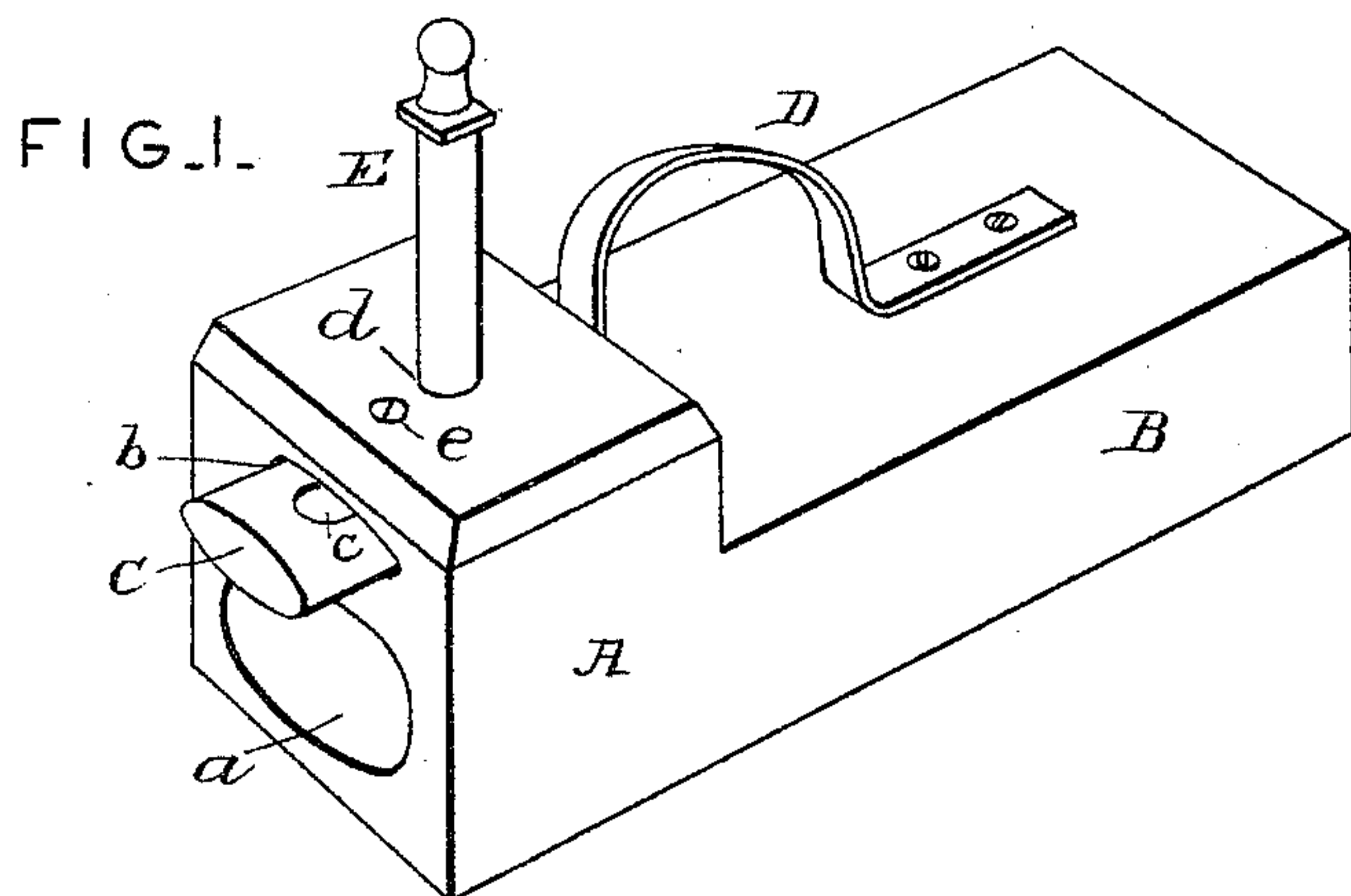


(No Model.)

O. F. BURCH.  
CAR COUPLING.

No. 437,830.

Patented Oct. 7, 1890.



ATTEST-

Harry L. Amer.  
E. E. Masson.

INVENTOR-

Oliver F. Burch,  
by *Wm. P. Ryan* atty.



# UNITED STATES PATENT OFFICE.

OLIVER F. BURCH, OF RHODELIA, KENTUCKY.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 437,830, dated October 7, 1890.

Application filed April 9, 1889. Renewed August 21, 1890. Serial No. 362,571. (No model.)

*To all whom it may concern:*

Be it known that I, OLIVER F. BURCH, a citizen of the United States, residing at Rhodelia, in the county of Meade and State of Kentucky, have invented certain new and useful Improvements in Car-Couplings; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has reference to car-couplings; and it consists in the improvements hereinafter set forth, whereby a simple and efficient car-coupling is provided.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a draw-head embodying my improvements; Fig. 2, a side view of two such draw-heads, one being shown in section; Fig. 3, a side view showing the adaptation of the improvements to draw-heads located at different heights. Fig. 4 is a sectional view of a modified form, and Fig. 5 is a detail perspective view of the spring-slide employed in such modified form.

The body of the draw-head A has the regular link-recesses *a* and is vertically perforated at the top for the passage of the coupling-pin E. Upon the top of the draw-head A is located a housing, forming between itself and the top of the head A a longitudinal recess *c*, which, as shown in Figs. 1 and 2, is open at both ends and terminates at its front flush with the vertical front plane of the draw-head. Within this recess is located a slide C, the front end of which is curved, as shown, and said slide is of such relative length that its rear end will at all times project to a greater or less degree beyond the end of the recess. This said slide is provided with a vertical elongated slot *c*, the front wall of which is vertical, while the rear wall *g* is forwardly inclined, as shown. A leaf-spring D has its rear horizontal portion bolted to the top of the head A, while its forward portion is curved to give it resiliency and has its free end bearing against the rear projecting end of the slide.

A link-perforation in the housing registers vertically with that in the draw-head, while a smaller perforation adjacent to the front of the housing permits the passing of a small pin *e*, which depends into the slot, and not only forms a stop to limit the inward movement of the slide C, but also acts as a retaining medium to prevent the slide being completely removed from the slot either by the spring or otherwise.

In operation the pin of the draw-head in which the link is to enter is raised and the spring D simultaneously moves the slide, so that the inclined face *g* thereof will pass beneath the rounded end of the pin and retain it in its elevated position. When the two draw-heads come together, the projecting ends of the slides C C' will contact with each other, and the slide that projects farthest from its recess will be forced back against its spring, so that the incline *g* passes from beneath the pin and permits the latter to drop through the link F, which has come into position within the chamber for the falling link to pass therethrough. As previously stated, the inward movement of the slide C is limited by the pin *e*.

By having the housing located on the upper side of the draw-head, as described, the improvements may be readily adapted for existing draw-heads without requiring a modification of the draw-head itself. Furthermore, the recess in which the slide plays being entirely separate from the main coupling-chamber, the slide under its spring-movements cannot come in contact with the link as the latter is elevated in the chamber, and hence all liability of the slide becoming jammed or otherwise interfered with is overcome.

The employment of the rear actuating-spring necessitates the use of the pin *e*, inasmuch as it is important to have a spring strong enough to positively hold the slide either against the pin when it depends down through the link, thus preventing vertical vibration, or when serving to hold its inclined face beneath the lower end of the pin, and a spring of the required force would, unless some other medium were resorted to, serve to unduly project it in a forward direction that, even if it did not, as would be most likely, throw it en-



tirely from the recess, would, at the least, place it in a position where the vibration of the draw-heads would result in its being shaken entirely from its recess.

5 I am aware of the construction disclosed in Patent No. 257,529, wherein the top wall of the coupling-chamber is longitudinally recessed for the reception of a slide provided with a slot, the rear end of which slot is inclined for the beating of the end of the pin. 10 In such construction, however, the slide is subject to contact with the link. No spring is employed, and the small pin depending into the slot from the top of the head is only designed to prevent the removal of the slide and 15 not limit its inward movement, since this is obtained by the end of the slide abutting against the end wall of the slide-recess.

I am also aware of the construction set forth 20 in Patent No. 386,790, wherein the head above the coupling-pin is provided with a horizontal recess, in which plays a sliding plate actuated by a pin in the chamber at the rear, said plate being provided with an aperture of 25 a diameter sufficient to allow the vertical passage of the pin. In such construction, however, no limiting medium for the inward movement of the slide is provided, nor has the slide the feature of the slot to operate, as in my 30 slide. In said patented device upon the force of the spring will largely depend whether the plate is completely ejected from its recess.

In Fig. 3 I have represented the forward-projecting end of one of the slides as being 35 provided with a vertical arm *f*, so as to adapt the improvement to draw-heads of different heights.

In Figs. 4 and 5 a modification of the slide, spring, and slide-recess is disclosed, the recess 40 terminating at its rear end in a small longitudinal channel and the slide, consisting of a slotted head occupying the recess and a rear

shank extending into said channel, a spiral spring embracing the shank and seated between the end of the head and end wall of the 45 recess. The smaller pin *e* drops into the slot of the head adjacent to its forward end.

As will be seen, the slide is of such relative length that even when the coupling-pin is 50 down the forward end of said slide will project to a limited extent beyond the front of the draw-head, and the inclined face is so disposed relative to the coupling-pin that the spring will cause the inclined face to bear against the body of the pin and prevent undesirable vibration of the same. By bringing 55 the draw-heads together the bearing contact will be released to permit either of the pins to be readily raised.

I claim— 60

In a car-coupling, the combination of the draw-head A, having the coupling-chamber and independent recess above and out of communication with the same save through the 65 link-pin opening, a slide playing in said recess so that its forward end will always project beyond the front of the draw-head and having a vertical longitudinal slot the rear wall of which is inclined, a spring acting on the rear end of the slide to hold its inclined 70 face in contact with the pin when down, and a smaller pin *e*, depending into the forward end of the slot and serving as a means for preventing the removal of the slide under the force exerted by the spring and as a limiting 75 means for the inward movement of said slide, together with a vertical coupling-pin, substantially as set forth.

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

OLIVER F. BURCH.

Witnesses:

ETTEN F. VESSELS,  
J. F. VESSELS.