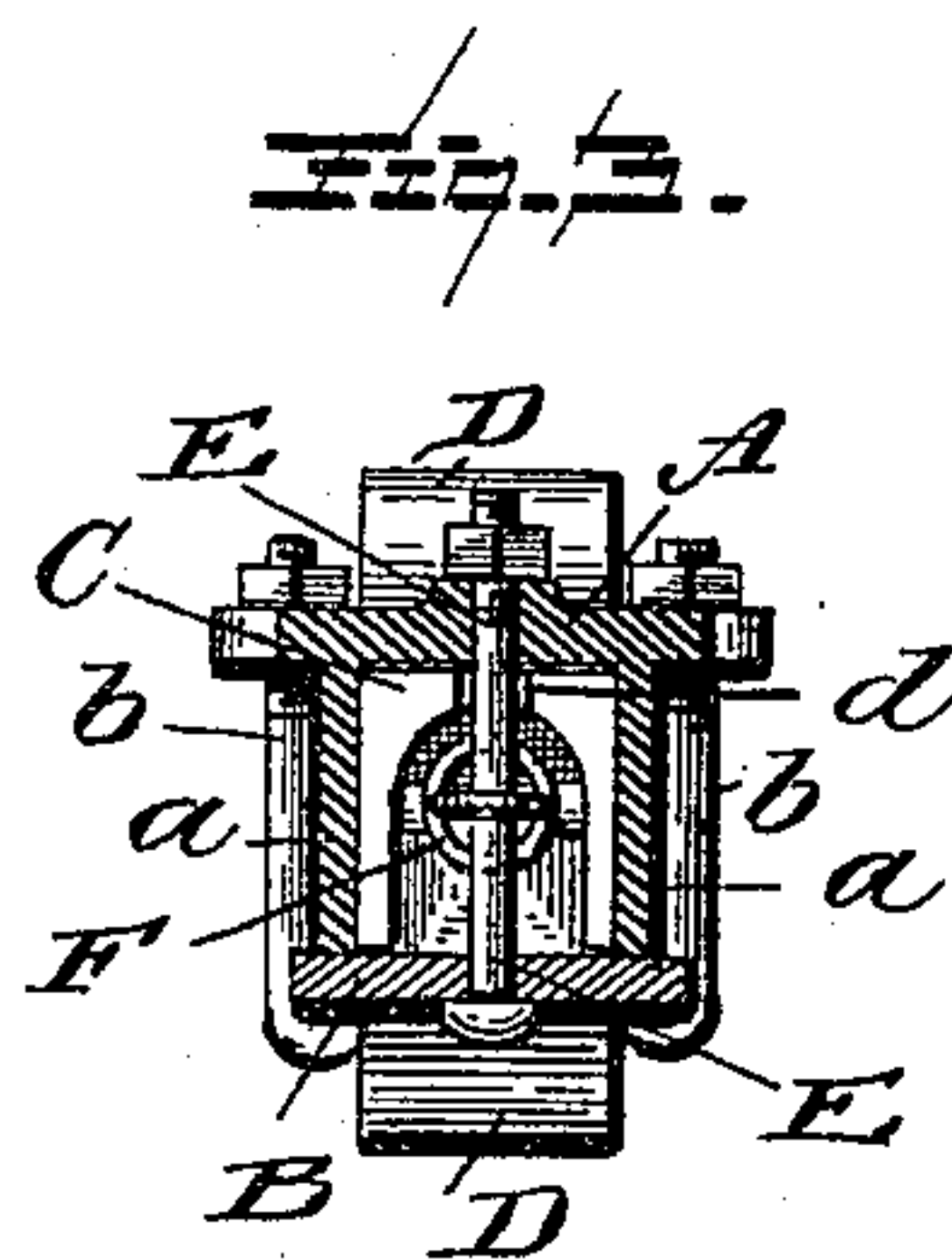
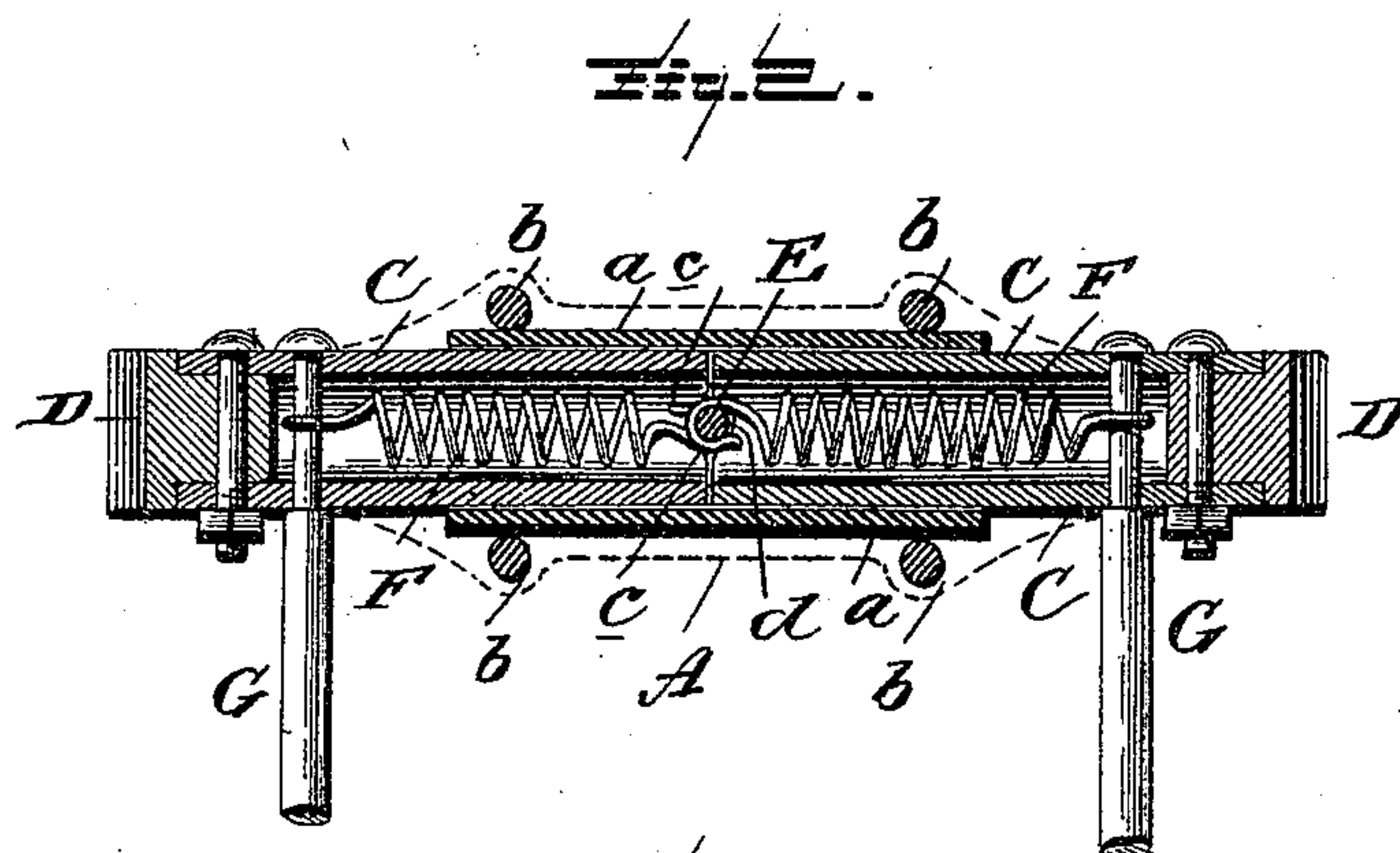
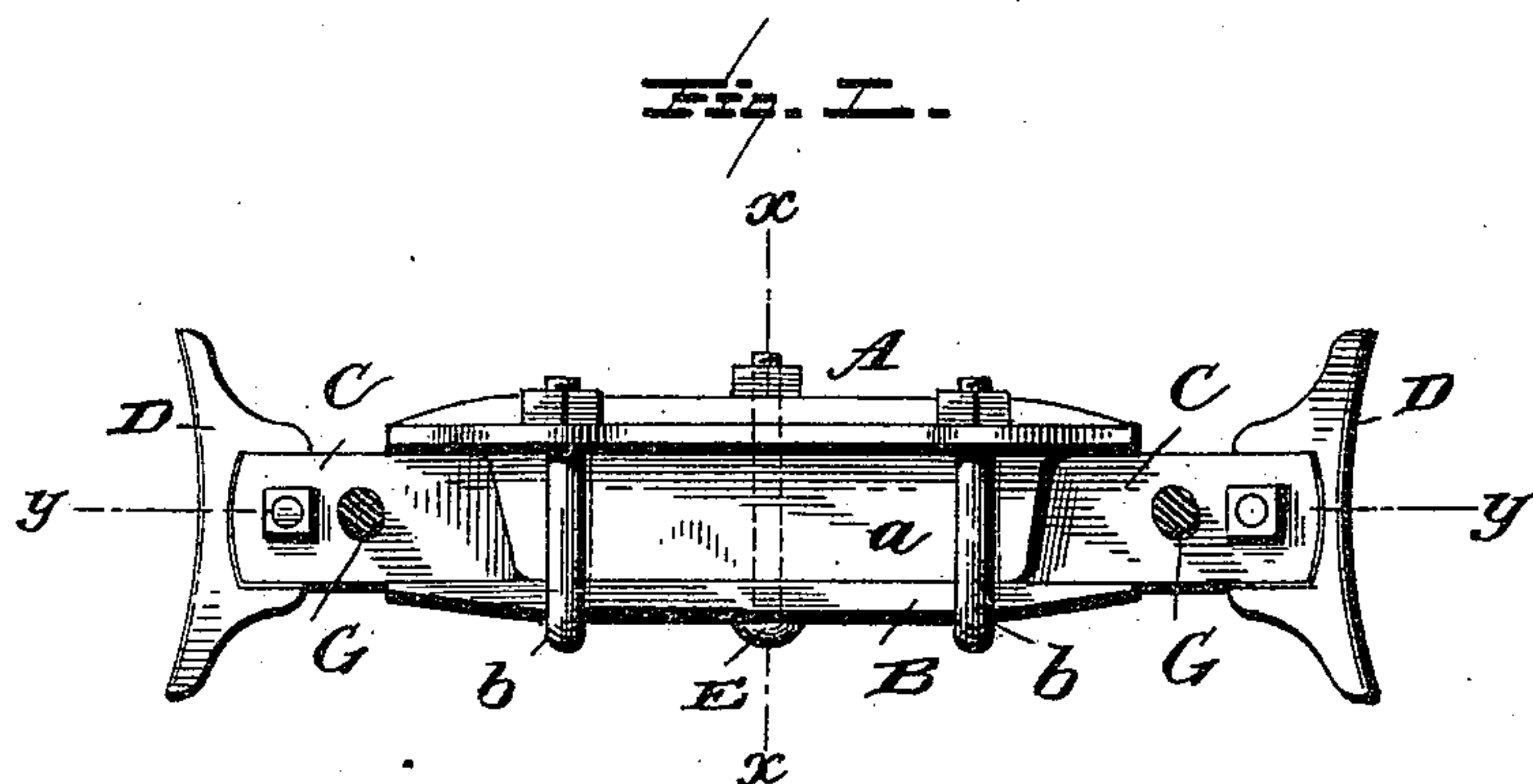


(No Model.)

M. MADDEN.
CAR BRAKE.

No. 438,381.

Patented Oct. 14, 1890.



Witnesses
L. C. Hills.
J. M. C. Schaver.

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UNITED STATES PATENT OFFICE.

MICHAEL MADDEN, OF HARRISBURG, PENNSYLVANIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 438,381, dated October 14, 1890.

Application filed August 21, 1890. Serial No. 362,588. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL MADDEN, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Car-Brakes; 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.

This invention relates to certain new and useful improvements in car-brakes; and it has for its object, primarily, to provide an improved spring-actuated brake-shoe wherein the springs are incased within a suitable housing or casing, the inner ends of the two springs being held by a single pin or bolt. I aim at cheapness and simplicity of parts combined with durability and efficiency in operation.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation illustrating my improvement. Fig. 2 is a longitudinal section through the line *y y* of Fig. 1. Fig. 3 is a vertical cross-section through the line *x x* of Fig. 1.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a plate formed with side flanges *a*, the said plate and flanges forming the top and two sides of the box, within which the operating parts are confined. The plate B forms the other side. The parts A and B are secured together by means of suitable clamp-bolts *b* and nuts, as shown in Fig. 1.

C are boxes adapted to slide within the box formed by the two parts A and B, and to the outer ends of these boxes the brake-shoes D are connected in any suitable manner. The shoes may be of any of the approved forms.

E is a bolt or pin passed centrally through the two parts A and B, and to this pin are connected the loops or eyes *c* of the inner ends of the stout coiled springs F, which are arranged within the boxes C, with their outer ends connected with the rods G, which are connected to the said boxes C, and to which the brake-levers (not shown) are designed to

be connected, so that movement of the levers in the proper direction will cause the brake-shoes to be moved against the wheels in the usual manner. When pressure on the levers is released, the springs draw the parts back to their normal positions. The inner ends of the boxes C are provided with semicircular notches *d* to embrace the pin or bolt E, so as to allow the boxes to come close together. By this arrangement the parts are incased and protected from dirt and the influence of the weather, and the boxes C serve as guides to insure the uniform movement of the parts and prevent wrenching and bending of the parts.

My improvement may be readily applied to cars already in use without much trouble or expense.

What I claim as new is—

1. The combination, with the fixed portion, of the sliding boxes carrying the brake-shoes and the springs inclosed within said boxes, substantially as specified.

2. The combination, with the fixed portion, of the boxes movable therein and carrying the brake-shoes and the springs confined within the said boxes and held at their adjacent ends to a fixed part within the fixed portion and at their other ends connected with the rods moved by the brake-levers, substantially as specified.

3. The combination, with the fixed portion and the boxes sliding therein and carrying the brake-shoes, of the rods connected with the boxes and the springs within the boxes connected to the said rods and their adjacent ends held to a pin common to both and secured to the fixed portion, as set forth.

4. The combination, with the fixed casing provided with pin E, of the sliding boxes within the fixed casing and provided at their adjacent ends with semicircular notches to engage the said pin and carrying at their outer ends the brake-shoes, the rods G, connected with the boxes, and the springs confined within the boxes and secured at one end to the rods and at the other end to the pin E, substantially as shown and described.

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

MICHAEL MADDEN.

Witnesses:

JAMES A. FURLEY,
FRED POPHAM.