

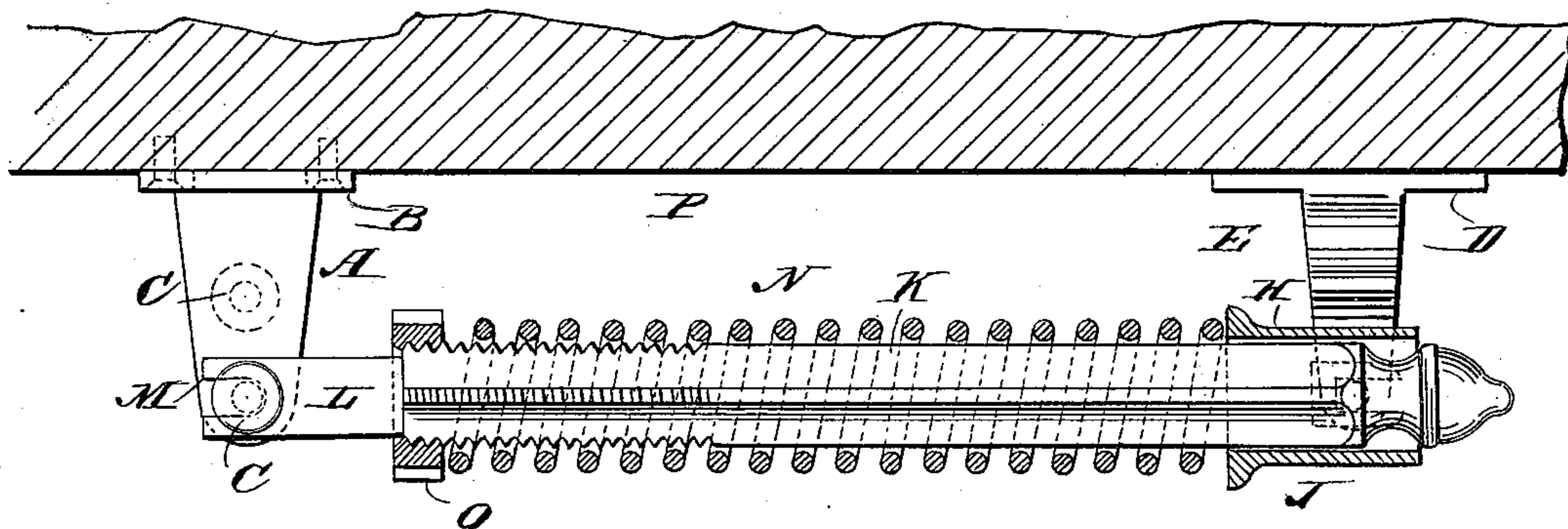
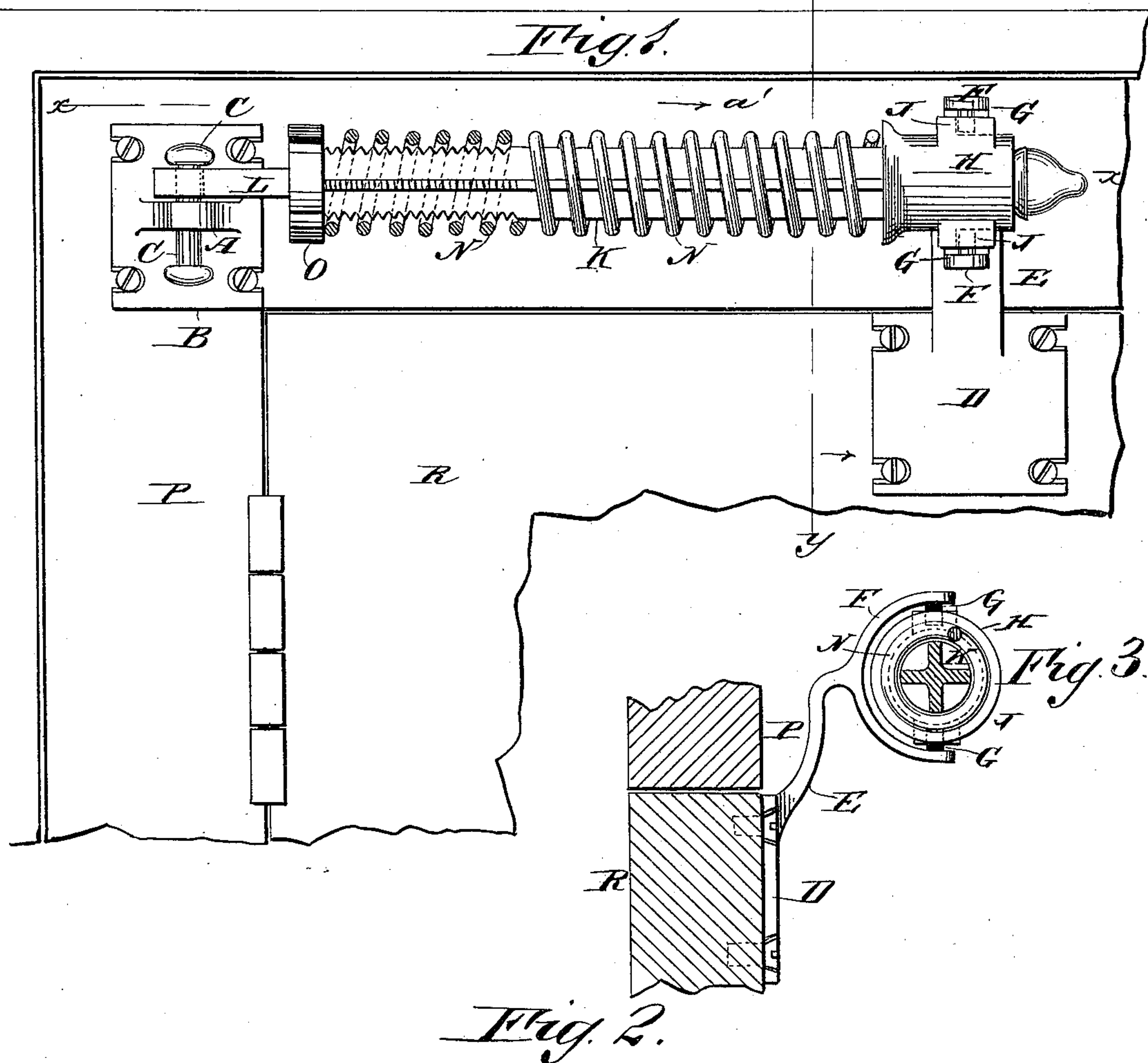
(Model.)

D. W. FROST.

DOOR SPRING.

No. 336,309.

Patented Feb. 16, 1886.



WITNESSES :

F. M. Arble.
to Sedgwick

INVENTOR:

P. W. Frost

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

DANIEL W. FROST, OF KEOKUK, IOWA.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 336,309, dated February 16, 1886.

Application filed May 29, 1885. Serial No. 167,087. (Model.)

To all whom it may concern:

Be it known that I, DANIEL W. FROST, of Keokuk, Lee county, Iowa, have invented a new and Improved Door-Spring, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved door-spring, which is simple in construction, effective in use, can easily be adjusted, and can be secured in place or removed very easily and rapidly.

The invention consists in the construction and combination of parts and details, as will be fully set forth hereinafter, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal view of my improved door-spring, parts being broken out. Fig. 2 is a sectional plan view of the same on the line *xx*, Fig. 1. Fig. 3 is a cross-sectional elevation of the same on the line *yy*, Fig. 1.

An arm, A, projects from a plate, B, and from the top and bottom of the said arm the headed studs or pins C project, the pin on the upper surface being near the outer end of the arm and the pin on the lower surface near the middle. The plate D is provided with the upwardly-curved arm E, having a fork, F, formed on its upper end, from the ends of the prongs of which the pins G project toward each other. A sleeve, H, is provided with two diametrically-opposite lugs, J, each having a groove or recess extending to one end of the lug and serving to receive the pins G in the ends of the prongs of the fork F. Through the said sleeve H a bar, K, is passed, which preferably has a cross-shaped transverse section and has one end, L, flattened, the flattened end being provided with a recess, M. The bar K is screw-threaded at the flattened end and is surrounded by a spiral spring, N, between the sleeve H and a nut, O, screwed on the threaded end of the bar K.

The plate B is secured to the door-casing P in such a manner that its bottom edge is flush with the bottom edge of the top cross-piece of the door, and the plate D is secured to the door R in such a manner that its top edge is flush with the top of the door.

The bar K is passed through the spring N, and the end of the bar is then passed through the sleeve H, which latter is placed between the prongs of the fork F in such a manner that the pins G pass into the recesses in the lugs J, the said pin resting against the closed ends of the grooves or recesses. The bar K is then pushed in the direction of the arrow *a'*, and the spring N compressed to permit of placing the flattened end L of the bar K on the arm A in such a manner that the pin C passes into the notch M. The tension of the spring N can easily be adjusted by means of the nut O.

When the door is opened, the bar K turns on the pin C, slides through the sleeve H, which turns slightly on the pins G, and the spring N is compressed. When the door is released, the spring N expands and acting on the inner end of the sleeve H and the nut O swings the door against the casing.

The device can be secured to the door a greater or less distance from the top edge; but I prefer to have it at the top.

The plate B can easily be reversed to have either pin C at the top. When the outer pin C is used, the bar has more leverage than when the inner pin is used.

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

1. The combination, with the bar K, having a notch, M, in one end, of the arm A, having a pin, C, which can be passed into the notch M, the spring N, surrounding the bar K, the sleeve through which the bar K passes, and of an arm having a fork in which the sleeve can turn, substantially as herein shown and described.

2. The combination, with the bar K, having a notch, M, in one end, of the plate B, having an arm, A, provided with a pin, C, the nut O on the bar K, the spring N, surrounding the bar K, the sleeve H, having grooved or recessed lugs J, the plate D, having the curved arm E, provided with a fork, F, and of the pins G, substantially as herein shown and described.

DANIEL W. FROST.

Witnesses:

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HARRISON TUCKER.