

Door-Springs.

No. 139,037.

Patented May 20, 1873.

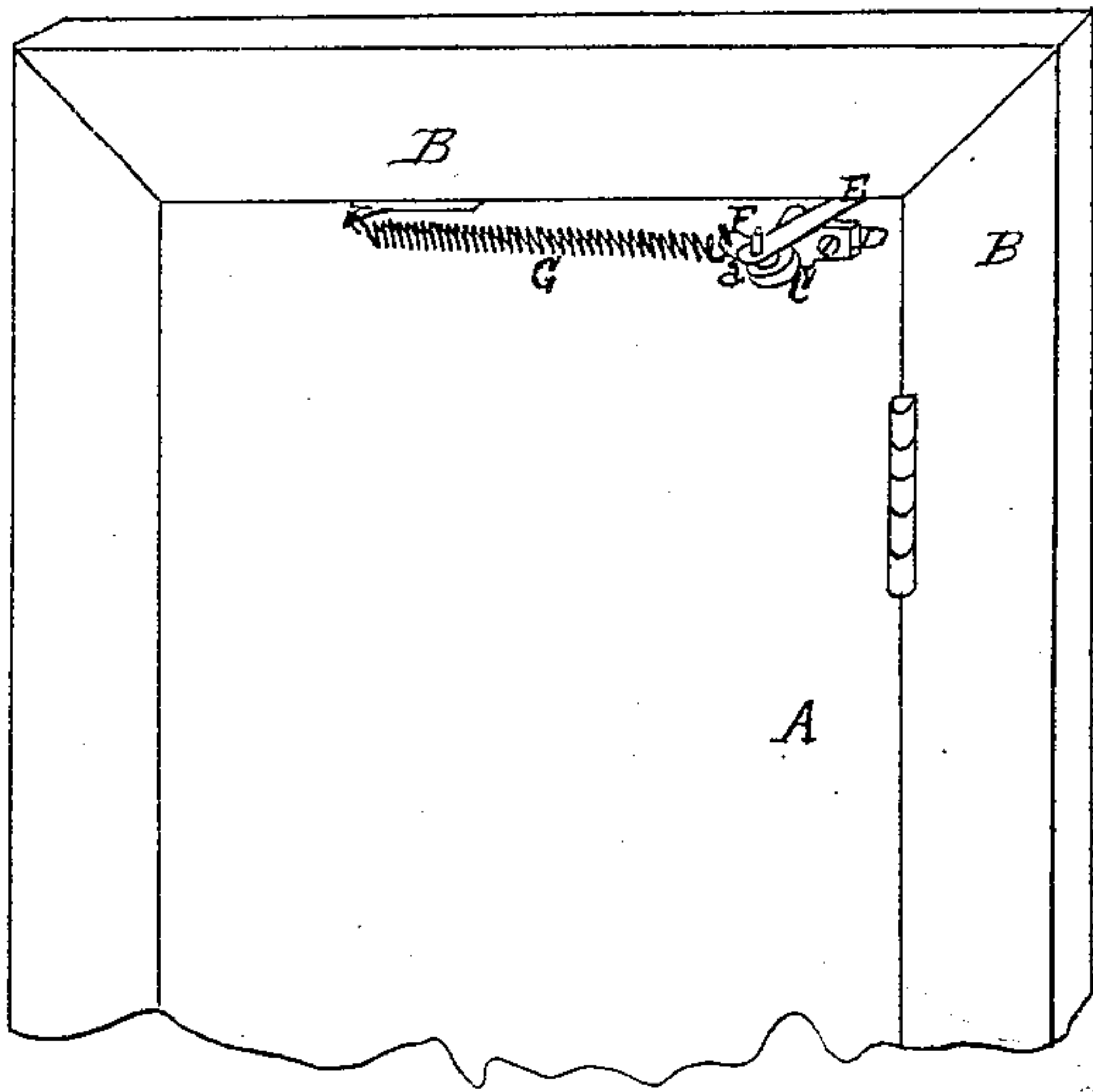


Fig. 1.

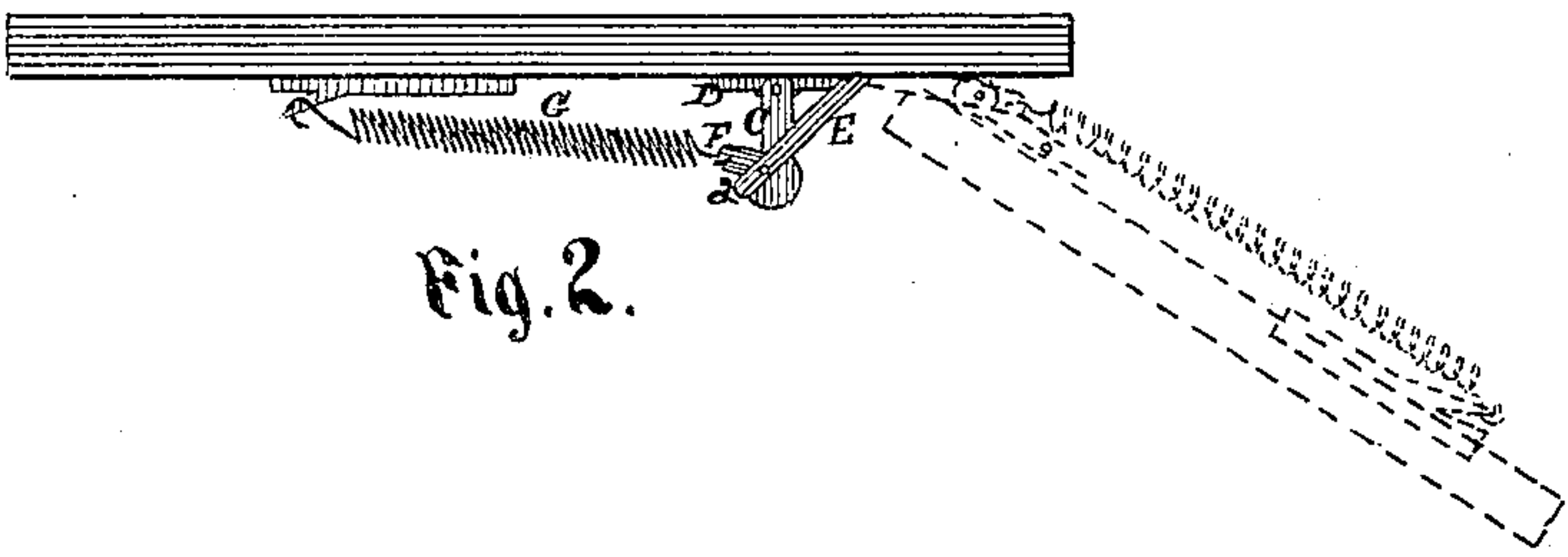


Fig. 2.

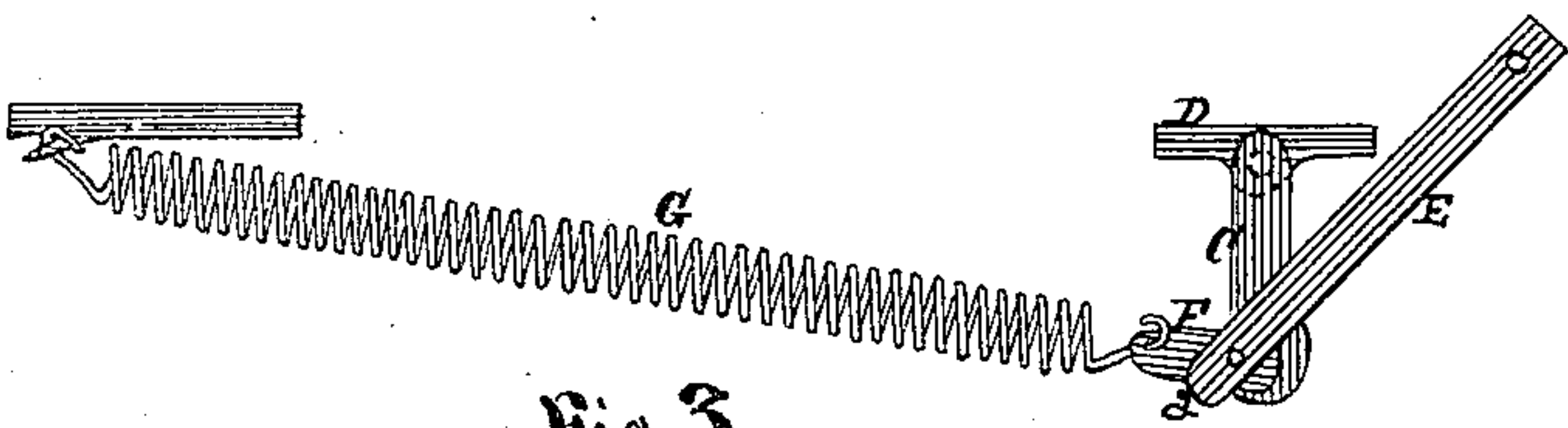


Fig. 3.

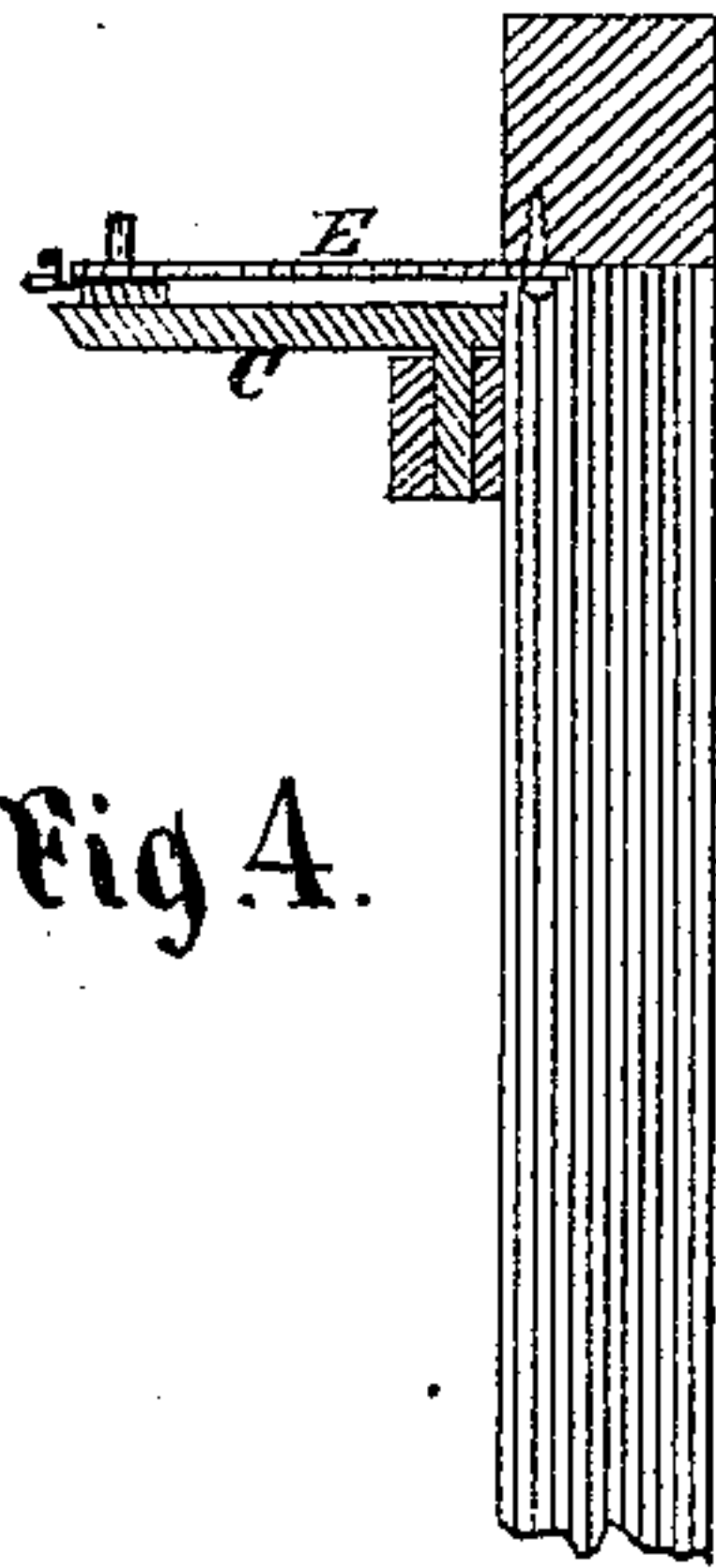


Fig. 4.

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IMPROVEMENT IN DOOR-SPRINGS.

Specification forming part of Letters Patent No. **139,037**, dated May 20, 1873; application filed April 17, 1873.

To all whom it may concern:

Be it known that I, MILTON L. WEBSTER, of the city and county of Albany, State of New York, have invented an Improved Door-Spring; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawing, representing a part of this specification, in which—

Figure 1 represents a perspective view of a section of a door and door-frame with the invention applied. Fig. 2 is a vertical view of the invention applied to a door. Fig. 3 is a vertical view of the invention on an enlarged scale. Fig. 4 is a sectional view of the same.

My invention relates to a door-spring acting with the door and its frame by means of a spring and crank-lever attached to the door, and a draw-bar attached to the door-frame, arranged in such a manner that the door, when opened, will cause the spring to have an increased tension from the crank-lever, so as to draw on the said lever and the draw-bar to cause the door to close to, and when the door is set wide open, the spring will be made to draw in about a line with the said center-line of the crank and the draw-bar, and be thereby rendered ineffective to close the same.

To enable others skilled in the art to make and use my invention I will proceed to describe it, in reference to the drawing and the letters of reference marked thereon, the same letters indicating like parts.

In the drawing, A represents the door. B is the door-frame. To the door A, at say about five inches from the edge of its hinged stile, I pivot the crank-lever C by means of the plate D, secured to the door by screws or their equivalents. The said lever C is arranged at about right angles with the door, when the same is closed, as shown in Figs. 2 and 3, and is free to move in either direction from the said right angles. To the door-frame, and at an acute angle with the lever C, I pivot the draw-bar E a little back of the pivot of the said lever C and toward the edge of the hinged stile of the door. The said draw-bar is made of a length which will permit, when pivoted to the door-frame as above described, its opposite end to be pivoted with

the loose end *d* of the crank-lever C, as shown. F is a link also pivoted to the loose end of the lever C, and free to move the same. G is a spiral spring (or rubber strap) or equivalent, one end of which is secured to the link F, while the other end is secured to the upper end stile of the door, as shown, with a slight degree of tension. The link may be dispensed with, yet I prefer to use it, as it gives a better opportunity for operating with the end of the spring it is to draw with; and should it be dispensed with, I would connect the end of the spring in any proper manner with the pivot in the loose end of the lever C.

The manner in which this invention operates is as follows: The several parts are placed in position and secured as described above. The lever C, starting out from the door at right angles and pivoted thereto, operates to hold the draw-bar E and spring G in their relative lines at an obtuse angle with the spring in tension, and with a tendency to draw the draw-bar forward. The said draw-bar, being pivoted at one end to the door-frame B and at the other end to the lever C, will, when the draw is at a line nearly parallel to the said spring, (the door being thrown open, as shown by dotted lines in Fig. 2,) operate to draw the lever C also parallel with the said spring, in which position the spring will have no power to operate to effect a closing of the door. By this operation the door can, in summer, be made to stand open, if desired, without the spring being removed. When the door is open to a distance sufficient to bring the spring G, lever C, and draw-bar E at an angle with each other, the said spring will operate to cause the draw-bar to act in a crowding manner on the crank-lever C and cause the door to move toward a shut position and maintain it in the same. The parts of this device are simple and direct in their operation, and operate to effect a ready closing of the door when it has been opened to the ordinary distance for passage, and will also permit the door being opened to a reasonable extent without any strain on any of its parts, while the door itself can be opened to such a distance as not to be affected for being closed by the device.

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

The device for closing a door, consisting of the crank-lever C pivoted to the door at about right angles with the same, and the draw-bar E pivoted at one end to the door-frame, and its opposite end to the outer end of the lever C, and at an acute angle with the same, and

the spring G attached at one end to the door, and its other end to the pivoted ends of the lever C and draw-bar E, with or without the link F, substantially as and for the purpose set forth.

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Witnesses:

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