(No Model.)

E. ALE.

SPRING HINGE.

No. 257,265. Patented May 2, 1882.

Fig. 1.

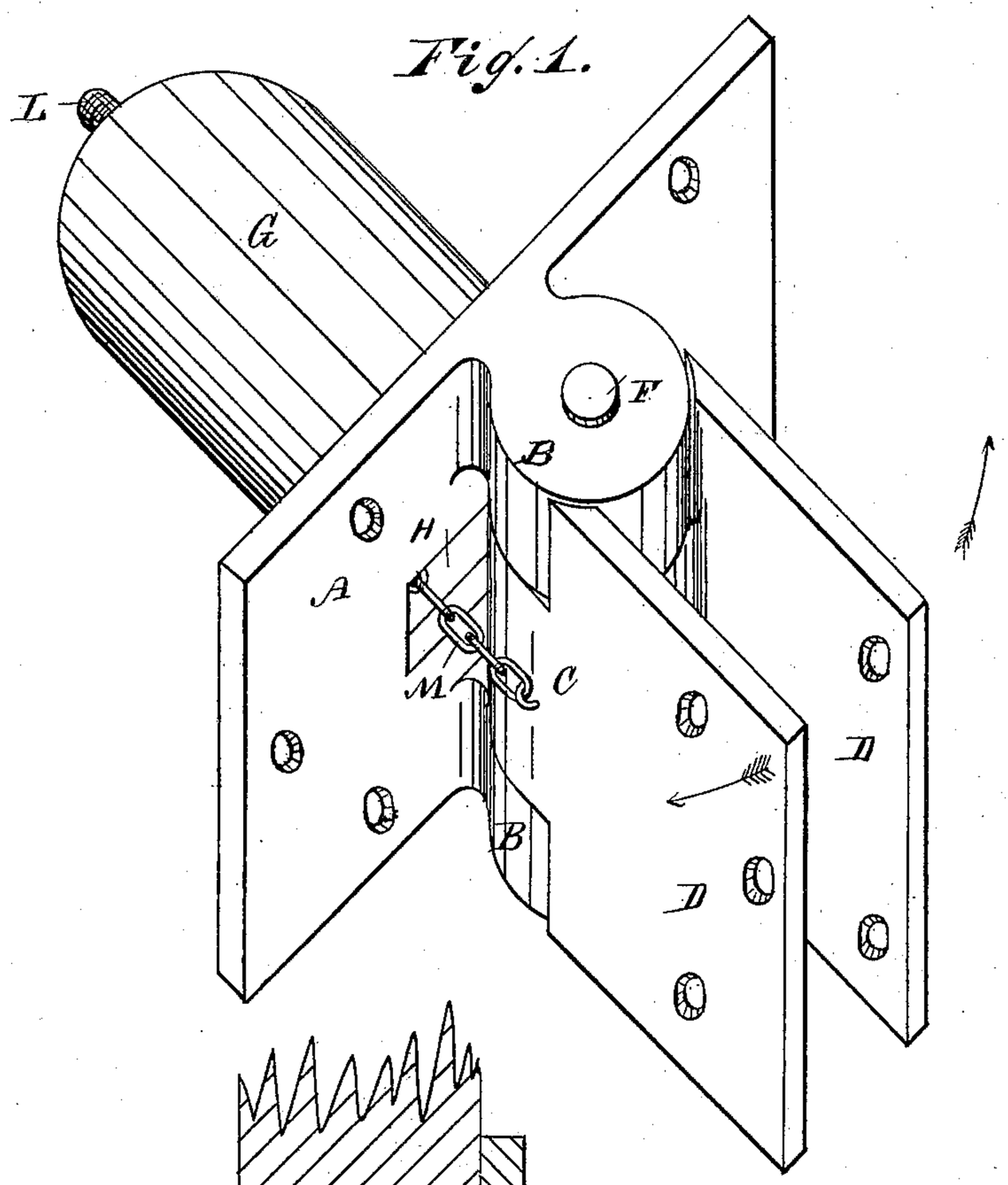
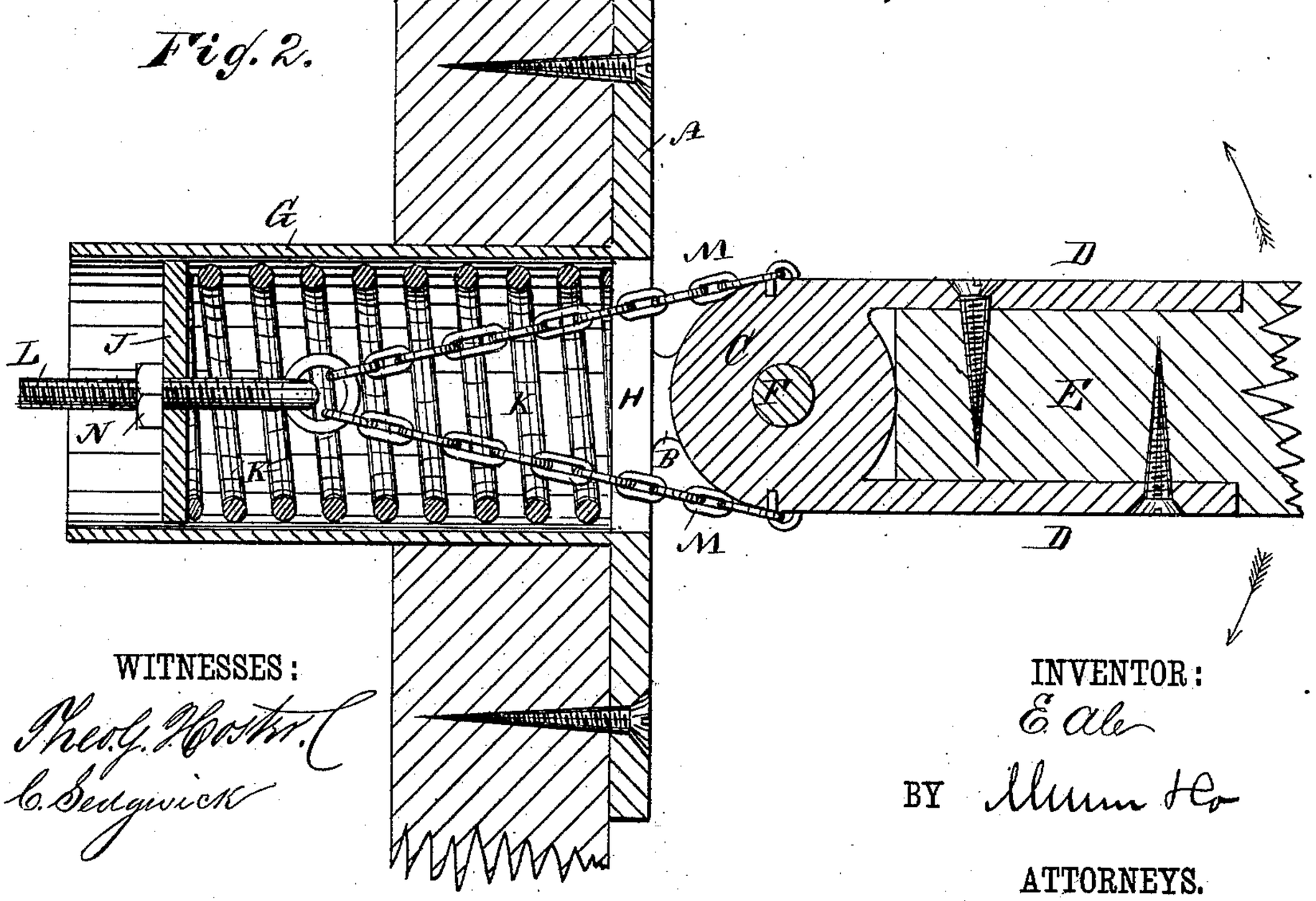


Fig. 2.



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UNITED STATES PATENT OFFICE.

EZRA ALE, OF ALTOONA, PENNSYLVANIA.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 257,265, dated May 2, 1882.

Application filed February 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, EZRA ALE, of Altoona, in the county of Blair and State of Pennsylvania, have invented a new and Improved Spring-Hinge, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved spring-hinge for closing doors and gates automatically in either direction.

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

Figure 1 is a perspective view of my improved spring-hinge. Fig. 2 is a sectional plan view of the same, showing it attached to a door and its jamb.

A hinge-plate, A, adapted to be attached to the door frame or jamb, is provided with two jaws, B, projecting from its flat surface, and between these jaws a loop, C, is passed, which is attached to the edge of a socket hinge-plate, D, adapted to receive the edge of a door or gate, E. A pintle, F, is passed through the jaws B and through the loop C to form the hinge. A tubular casing, G, is attached to and projects from the inner surface of the plate A, and at the inner end of this casing the plate A is provided with a horizontal or transverse slot or aperture, H. A plate or cross-piece, J, fitting in the casing G, rests on one end of a spiral spring, K, contained in the casing G, the other end of this spring resting against the inner surface of the plate A. A screw-rod, L, passes through the plate or cross-piece J, and to the end of this rod, within the casing G, two chains, M, are attached, the other ends of these chains being attached to opposite sides of the hinge-loop C, the chains passing through the slot or aperture H. A nut, N, is screwed on the threaded end of the screw-rod L, projecting from the end of the casing G, which nut rests against the surface of the plate or cross-piece J.

The operation is as follows: If the gate or door E is swung in the direction of its arrows, the chains M on that side of the door toward which the door is moved will be slackened, and the other chain will be taut, and will contract or compress the spring K. As soon as the door is released the spring K expands, and thereby pushes the plate J toward the end of the casing G and draws the chains into the casing and closes the door. When the door is closed the tension on both chains will be alike; but when the door is opened in either direction the chain on that side from which the door is moved will be drawn taut, and when the door is released this taut chain will draw the door back into its original position. If this spring-hinge is applied on a door swinging in one direction only, but one chain M will be required. The loop C need not necessarily be attached to a socket hinge-plate, D, but can be fastened to the door in any other suitable manner. By means of the nut N the tension of the spring K can be adjusted.

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

1. The combination, with the door-hinge pintle F and hinge-loop C, of the chains M M, one extending from each side of loop C to the ring on the end of a spring-retracted bolt, as shown and described.

2. In a spring-hinge, the combination, with the hinge-plates A D, of the casing G, the spring K, the plate J, the screw-rod L, the nut N, and the chains M, substantially as herein shown and described, and for the purpose set forth.

EZRA ALE.

Witnesses:
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JACOB SNYDER.