(Model.)

G. W. WARNER.

SPRING HINGE.

No. 345,748. Patented July 20, 1886.

Fig. 2.

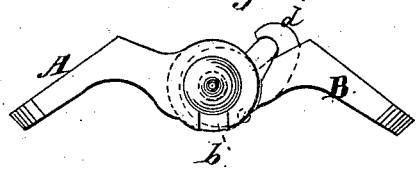


Fig. 1.

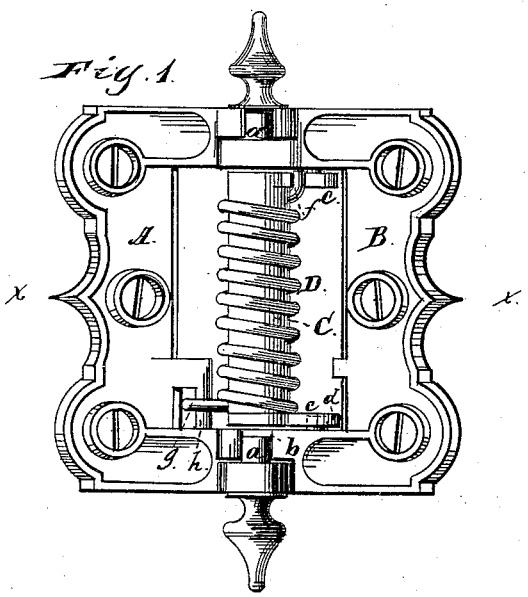


Fig. 5.

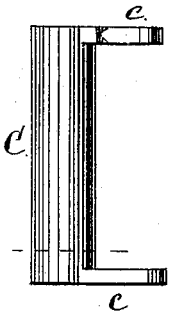


Fig. 7.

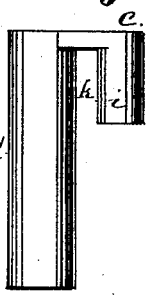


Fig. 6.

Fig. 3.

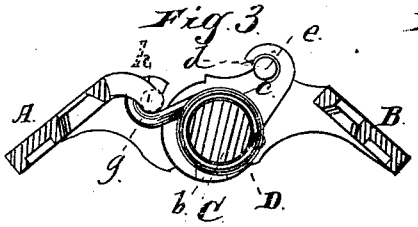
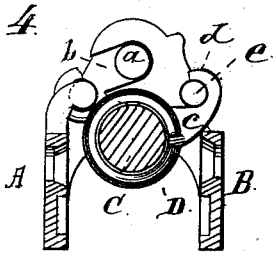


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE W. WARNER, OF FREEPORT, ILLINOIS.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 345,748, dated July 20, 1886.

Application filed September 1, 1884. Serial No. 141,916. (Model.)

To all whom it may concern:

Be it known that I, GEORGE W. WARNER, residing at Freeport, in the county of Stephenson and State of Illinois, and a citizen of the United States, have invented certain new and useful Improvements in Spring-Hinges, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation showing the hinge partly open. Fig. 2 is an end view showing the hinge partly open. Fig. 3 is a section at line *x* of Fig. 1. Fig. 4 is a central cross-section showing the hinge open. Fig. 5 is a detail, being an elevation of the spring holder or core. Fig. 6 is an end view of the same. Fig. 7 shows a modification of the core.

My invention relates to that class of spring-hinges which, when attached to a door, are adapted to close the same, except when it is opened beyond a dead-point, but which tend to hold it open when opened beyond such dead-point.

Heretofore a spring-hinge has been constructed with a longitudinal spring attached directly at each end to both leaves of the hinge. A spring-hinge has also been constructed of two leaves hinged together, with a spring encircling an arbor and connected to one of the leaves at one end, and at the other end connected to a spring-holder consisting of two disks connected together by a bar, said disks forming the bearings of the arbor. My invention is designed as an improvement upon said constructions by pivotally connecting to one of the hinges, so as to swing, the core which the spring encircles, thereby dispensing with some of the parts, and thus simplifying the construction.

A B are the two leaves of the hinge, to be secured by screws to a door and its casing. The leaves are provided with ears raised any suitable distance above the planes of the leaves. One ear of each leaf, as shown, is provided with a short pintle, *a*, while the other end of each leaf is provided with a slot, *b*, passing from the outside of the center, the bottom of which slot is cylindrical and adapted to receive one of the pintles. The two pintles *a* rest in the slots *b*.

C is a core or arbor for the spring. It is made of any suitable material, preferably round in form, and passes through the coil-spring D. At each end it is provided with means for connecting it pivotally with one of the hinge-leaves B. As shown, this is accomplished by providing each end of the core C with an arm, *c*, having a hook, *d*, on its outer end, which engages with a pin, *e*, connected with the hinge-leaf B.

D is a coil-spring, one end of which, *f*, is secured to the core or to one of the arms *c* upon the core, and the other end of the spring is provided with a hook, *g*, which is hooked upon a loop, *h*, or other holding place upon the leaf A.

The operation is as follows: The core being pivoted to one leaf B by means of the arms *c*, and the spring being connected at one end to the core and at the other end to the leaf A, as described, the points of connection of the spring and core with the leaves change their position relatively to the pintles as the door is opened, and the action of the spring tends to close or hold the door open, according to its position.

It is not necessary to connect the core at both ends to a leaf of the hinge. When connected at one end only, it will be desirable to extend the hook, as shown at *i*, Fig. 7, in order to furnish a long bearing to maintain the core in line, leaving a space, *k*, between the extension and the body of the core for the spring.

It is not necessary to use hooks on the arms which project from the core. These arms might have holes through them at their outer ends to receive pins on the hinge; but this construction would not be convenient.

What I claim as new, and desire to secure by Letters Patent, is—

In a spring-hinge, a core, C, directly connected with one leaf of the hinge, so as to swing, in combination with the leaves of the hinge and a coil-spring encircling the core and connected at one end with the core and at the other end with one of the leaves of the hinge, substantially as and for the purpose specified.

GEORGE W. WARNER.

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