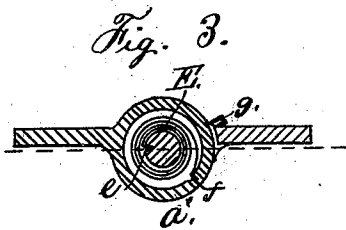
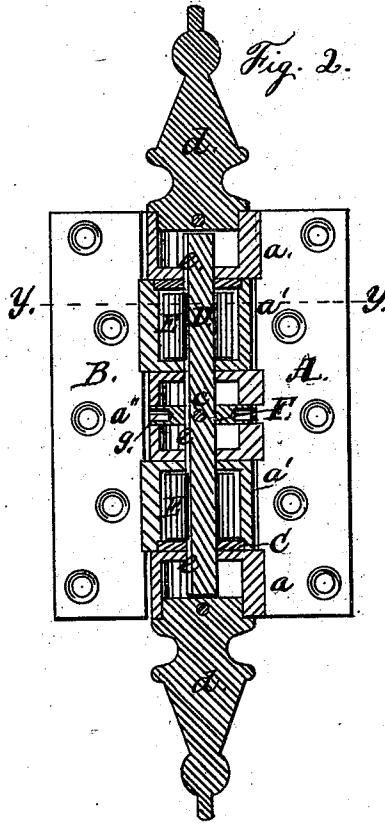
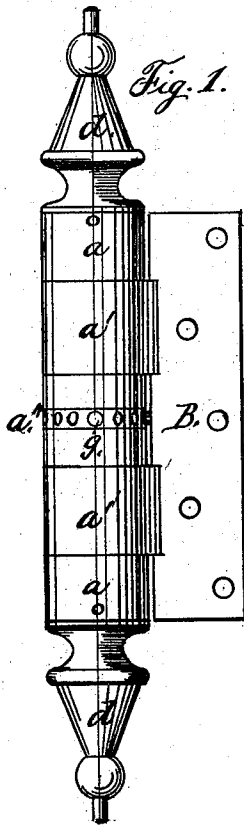


G. D. CARLETON.
SPRING-HINGE.

No. 174,476.

Patented March 7, 1876.



Witnesses.
Geo. F. Gowdy
Henry A. Mitchell

Inventor.
George D. Carlton.
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Atty.

UNITED STATES PATENT OFFICE.

GEORGE D. CARLETON, OF NEW BRITAIN, CONNECTICUT.

IMPROVEMENT IN SPRING-HINGES.

Specification forming part of Letters Patent No. 174,476, dated March 7, 1876; application filed December 1, 1875.

To all whom it may concern:

Be it known that I, GEORGE D. CARLETON, of New Britain, in the county of Hartford and State of Connecticut, have invented a new and Improved Spring-Hinge, of which the following is a specification:

My invention consists of an adjusting-plate, secured to the pintle and rotating therewith, the knuckle of the leaf slotted transversely to receive said adjusting-plate, the pin for adjusting it, the opposite leaf having chambered knuckles, the springs surrounding the pintle and within said chambered knuckles, all combined and operating together as hereinafter more fully described and definitely claimed.

In the accompanying drawing, Figure 1 is a side elevation of a spring-hinge which embodies my invention. Fig. 2 is a vertical section of the same, taken on the plane $x x$ of Fig. 3. Fig. 3 is a horizontal section of the same, taken on the plane $y y$ of Fig. 2.

A B designate the two leaves of the hinge, the knuckles $a a' a'' a'$ of which are solid and hung upon the pintle D, like an ordinary hinge. The knuckles $a a$ of the leaf B are chambered at their outer ends, to which caps C C are secured by means of pin c , as shown in Figs. 1 and 2. The knuckle a'' of the leaf B is chambered for the purpose of reducing the weight of the hinge. The knuckles $a' a'$ of the leaf A are chambered at the upper end of the upper knuckle and lower end of the lower knuckle, to receive springs, said chambers being closed by caps $d d$.

A central hole is made through the knuckles and caps $d d$ to receive the pintle D. This pintle is of such length that when the caps C C are secured in place its ends will nearly reach said caps, so that it can have but little, if any, longitudinal movement. In one side of the pintle D, and lengthwise therewith, I form a narrow slit, e , and upon the inside walls of the knuckles $a' a'$ of the leaf A I form a similar longitudinal slit, f , Fig. 3.

A coiled sheet-metal spring, E, of the clock-spring style, and provided at each end with hooks, is placed within each of the knuckles $a' a'$, and around the pintle D, with the hooked ends resting in the slits $e f$, as shown in Fig. 3. In one of the knuckles, and, preferably, in the middle knuckle a'' , I form an opening or slot, which receives an adjusting disk or plate, F, pinned or otherwise secured to the pintle D, so as to rotate

with it. In the edge of the adjusting-plate F there are pin-holes, as shown in Fig. 1, to receive the adjusting-pin g .

In order to secure the hinge upon a door and frame the adjusting-pin g is withdrawn, which allows the adjusting-plate F and pintle D to turn, thereby releasing the springs E E, so that they do not bear either way upon the leaves A B. The hinge, or a pair of them, are then secured to the door and its frame in the same manner as ordinary springless butts are hung. The door is then closed, and a small rod or lever is placed in one of the holes of the adjusting-plate F, by means of which lever the plate is partially rotated in the direction that the door would move in opening, and the adjusting-pin g is placed in one of the holes that is exposed by thus rotating the plate F. Said plate is then released, and the pin g engages with the leaf B. Upon opening the door the pin g moves with the door and leaf B, and carries the plate F and pintle D with it, and as one end of the springs E E are hooked upon or into said pintle, and the other end to the stationary knuckles $a' a'$, the spring or springs are necessarily wound up. So soon as the door is released the elasticity of the spring will have a tendency to close the door.

By changing the adjusting-pin g from one hole to another in the plate F the springs are adjusted so as to close the door with more or less force, as may be desired.

The hinge herein shown is a single-joint hinge; but it may, if desired, be applied to a double-jointed or three-leaf hinge.

A wire spring might also be placed within the chamber of the solid knuckles, instead of the sheet-metal spring, without changing the construction of the knuckles.

I claim as my invention—

The adjusting-plate F, secured to the pintle D, and rotating therewith, the knuckle a'' , slotted transversely to receive said adjusting-plate, the pin g , leaf A, having chambered knuckles $a a$, leaf B, and the springs E E, surrounding the pintle and within said chambered knuckles, all combined and operating substantially as described and shown, for the purpose set forth.

GEORGE D. CARLETON.

Witnesses:

EDW. C. JONES,
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