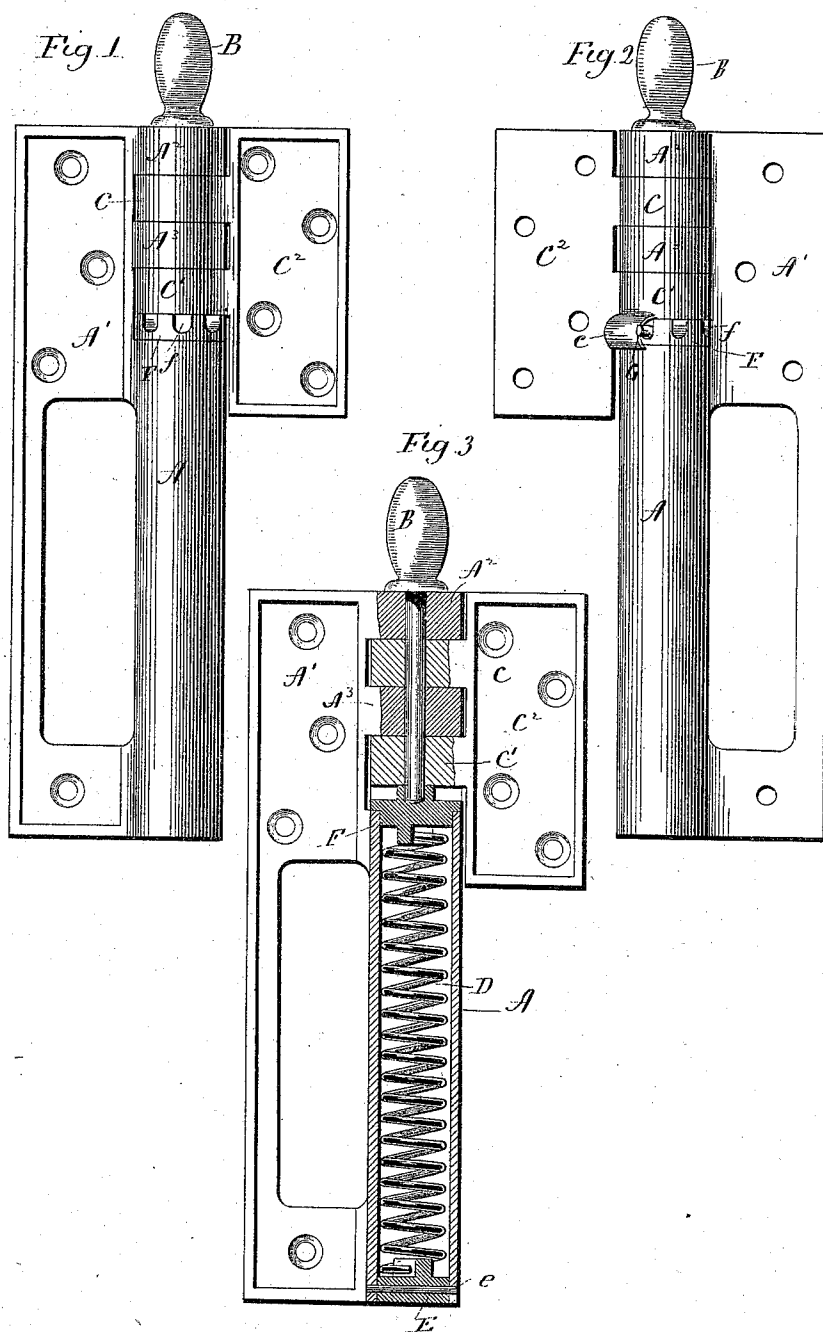


(No Model.)

A. A. PAGE.
SPRING HINGE.

No. 526,162.

Patented Sept. 18, 1894.



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SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 526,162, dated September 18, 1894.

Application filed November 13, 1893. Serial No. 490,746. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. PAGE, of East Haven, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Spring-Hinges, (Case B;) and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description
10 of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in front elevation of a spring-hinge constructed in accordance with
15 my invention; Fig. 2, a rear view thereof; Fig. 3, a front view of the hinge with its spring barrel in vertical section.

My invention relates to an improvement in spring-hinges for doors, the object being to
20 produce at a low cost for manufacture a simple, strong and effective article, not liable to disfigurement in use by the buckling of the the spring, due to coiling the same in the wrong direction.

25 With these ends in view, my invention consists in a spring-hinge having one of its leaves constructed upon its inner edge with a long integral spring-chamber or barrel, and with one or more knuckles located in line there-
30 with, a leaf constructed upon its inner edge with one or more knuckles arranged to co-act with the knuckles of the chambered leaf, a pintle passing through the knuckles, a spring located in the said chamber and con-
35 nected therewith at one end thereof, and an adjusting head located in the other end of the chamber, and having the opposite end of the spring connected with it, and carrying a pin which normally engages with the other
40 leaf.

My invention further consists in certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claim.

45 In carrying out my invention, I cast a long barrel or cylindrical chamber A, integral with the inner edge of the leaf A' of the hinge, the said leaf being also constructed with two knuckles A² and A³, located in line with the
50 barrel, and centrally perforated to receive the pintle B, which also passes through the knuc-

kles C and C' of the other leaf C² of the hinge. The leaf A' is made long so as to provide a support for the lower end of the spring-chamber A. No such necessity, however, exists
55 for making the other leaf C² long, and it may be made long or short. Preferably it will be made short as that construction is the most compact and lightest, and requires the least material, and reduces the cut made to re-
60 ceive it in the door or door-jamb, to obvious advantage. Within the chamber A, I locate a heavy spiral spring D, secured at its lower end to a plug E, inserted into the lower end of the barrel, and secured therein by
65 means of a pin e, whereby the lower end of the spring is rigidly connected with the chambered leaf A' of the hinge.

The opposite or upper end of the spring is attached to a rotatable adjusting-head F, lo-
70 cated in the upper end of the barrel, having rotatable bearing thereon, and held in place by the projecting inner end of the pintle, as shown in Fig. 3. The exposed edge of the
75 said head is furnished with a number of radial sockets f, adapted to receive the pin G, by means of which the power of the spring is exerted upon the leaf C² of the hinge, as
80 clearly shown in Fig. 2 of the drawings, the said leaf being constructed near its lower end with a shoulder c, for engagement by the pin. The sockets F in the head open not only
85 into the periphery thereof, but also into the upper face thereof, this construction enabling the heads to be cast and the sockets cored out, whereby an economy is secured over
90 casting the head and boring the sockets in it. For the purpose of adjusting the tension of the spring, a wire or long heavy pin is inserted into one of the unoccupied sockets f
95 of the adjusting head F, and the same turned in one direction or the other. Then when the pin G is disengaged from the shoulder c, it may be removed from the head, and inserted into one of the other sockets thereof. In case the
100 spring is wound in the wrong direction, which may be done within narrow limits, the pin will engage with the opposite point on the leaf A', whereby its action will be neutralized, for then its tension will be exerted solely upon the same leaf of the hinge, and the leaf C² thereof will swing as though the hinge

contained no spring, and the spring will not be further moved in the wrong direction by the opening of the door, which generally does the damage when the springs of hinges of the class described are wound in the wrong direction.

The barrel or spring-chamber A being cast integral with one leaf of the hinge, is so heavy that no buckling or distortion of the spring, due to coiling it in the wrong direction, can break or deface it. Furthermore, by providing for the housing of the spring away from the knuckles of the hinge, I am enabled to secure ample room for the free action of the spring, to obvious advantage. The gain by making one leaf short, has already been referred to.

It is apparent that both of the leaves of the hinge may be modified in size, and form, if desired, and that the particular devices employed for holding the spring in place and adjusting it may also be varied, and I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations therein as fairly fall within the spirit and scope of my invention.

I am aware that it is old, broadly speaking to house or inclose a hinge spring inasmuch as the same have been, located within tubular pintles. I am also aware that it is old to locate the spring of a hinge in line with its knuckles and connect its opposite ends with the respective hinge leaves. I am further aware that it is old to provide a spring-hinge with a rotatable adjusting-head provided with radial sockets. I do not, therefore, claim any of those constructions broadly.

I am aware that it is old to locate a cylindrical chamber in line with the knuckles of the leaf of a hinge, and to place a spring and other instrumentalities within the said chamber and I do not, therefore, broadly claim the location of a chamber in line with the knuckles of a hinge leaf.

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

In a spring hinge, the combination with a hinge-leaf, having a spring chamber or barrel and one or more knuckles cast integral with its body, the said barrel or chamber being made open at both ends and the said knuckle or knuckles being located at one end thereof by a space, of a leaf constructed upon the inner edge of its body with one or more knuckles arranged to coact with the knuckle or knuckles of the chambered leaf, a pintle passing through the knuckles but not through the spring-chamber, a spring located in the said chamber and connected therewith at the outer end thereof, through which it is introduced thereinto, and an adjusting head located in the space formed in the chambered leaf, as described, and having the inner end of the spring connected with it and carrying a pin, which normally engages with the other leaf, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALBERT A. PAGE.

Witnesses:

GEORGE D. SEYMOUR,
FRED C. EARLE.