(No Model.)

F. KEIL.

SPRING HINGE.

No. 522,732. Patented July 10, 1894.

Fig. 1.

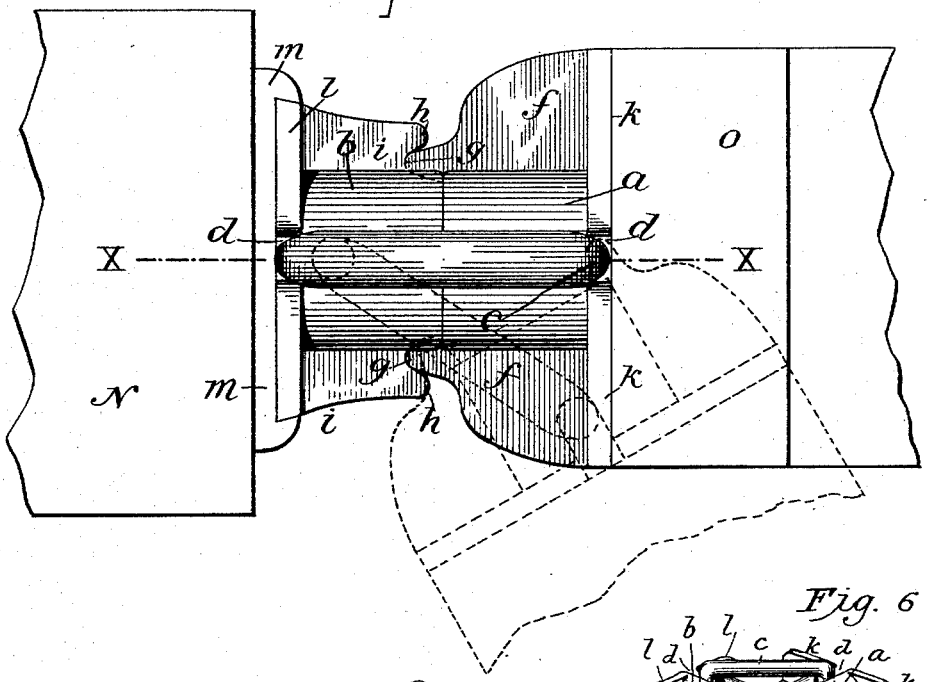


Fig. 6

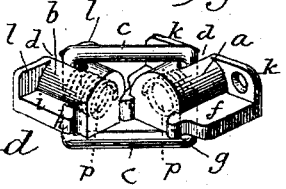


Fig. 2.

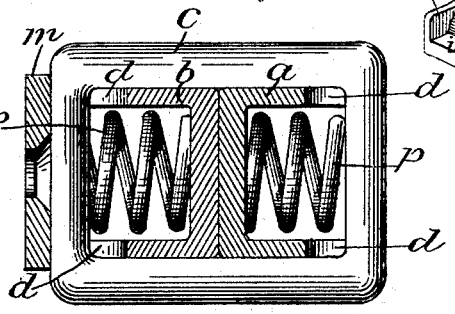
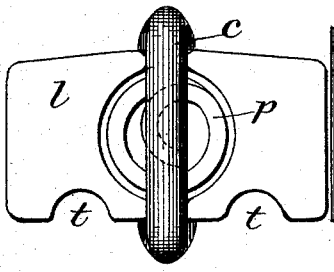


Fig. 3.



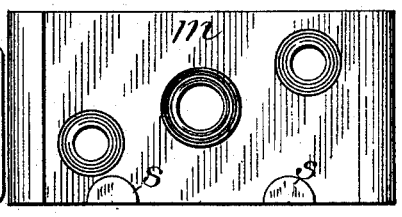


Fig. 4.

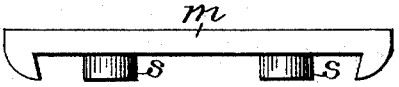


Fig. 5.

Francis Keil
INVENTOR;

ATTEST:
Richard Lipe.
Mat Block

By Adam E Schatz
Attorney

UNITED STATES PATENT OFFICE.

FRANCIS KEIL, OF NEW YORK, N. Y.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 522,732, dated July 10, 1894.

Application filed September 27, 1893. Serial No. 486,623. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS KEIL, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented a certain new and useful Improved Spring-Hinge, of which the following is a specification.

My invention relates to a spring hinge for gates in which two barrels having flat heads and provided with stud and socket and in which springs are placed into recesses, the two parts being held together by means of a shackle, which, when spread at right angles, compresses the springs in the barrels which tends to bring the parts into their normal condition when released from pressure.

In the drawings Figure 1. represents a top view of the hinge fixed to a post and gate, the dotted lines showing the position of the part *f* and the shackle when the gate is opened and the hinge spread toward a right angle. Fig. 2. represents a cross section and shows the part *f* cut away, to diplay the position of the shackle and the springs in the barrels. Fig. 3. is an end view showing the shackle flange and spring. Fig. 4. is a front view of a slide clamp plate into which the beveled edge of the flange fits and is provided to facilitate the unhanging of the gate when desired. Fig. 5. is a top view of the clamp plate showing the beveled clamp sides and the top studs which prevent the hinge from passing a given position and is provided with holes to accommodate the screws by means of which it is preferably fastened to the post. Fig. 6 is a perspective view of the hinge in open position.

In the drawings *a* is a barrel having the flanges *k*, *k*, which are joined or strengthened by the brackets *f* provided with the studs *g*, *g*.

b is a barrel having the flanges *l*, *l*, provided with the sockets *h*, *h*, into which the studs *g* fit when the two parts are adjusted; *d* is a recess in the body of the barrels between the flanges into which the shackle *c* sets.

c is a shackle by means of which the two parts are held together and against which an end of the spring or springs *p*, *p*, is set and are compressed when the hinge is opened.

o is a section of the gate.

N is the gate post.

m is the plate having the inwardly beveled flanges on the edges and screw holes and the stop studs *s*, *s*.

t are recesses in the bracket of the barrel into which the studs *s s* fit.

It is obvious that I may dispense with the clamp plate and provide the flange of the barrel *b* with screw holes to fasten the same to the post, the plate not being an essential part of my invention but only a desirable part thereof.

It is obvious that one or more springs can be used, the number depending entirely upon the heaviness of the gate, and although only one spring is shown, I may use several placed within each other should I desire. Nor do I limit myself to that particular form of spring.

In practice the springs are placed in the barrels and by suitable mechanism compressed and the shackle passed over the flanges and set into the recess *d*. The studs *g*, *g*, fit into the sockets *h*, *h*, and when the parts are spread the studs *g*, *g*, act as fulcrums, and the shackle as a lever, when the door is thrown either way thus compressing the springs in the barrels. This compression will last as long as there is power applied to throw the hinge from the position in which the heads rest together. When released the force of the springs tends to throw the hinge into its normal position thus closing the door or gate and there holds the same until the gate is again opened.

The hinge is screwed to the door or gate and the plate is fastened to the part with the stop studs downward. The gate may be hung by engaging the beveled edge of the flange with the inwardly beveled lug of the plate.

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

1. In a spring hinge, the combination of the sections or barrels, one articulated upon the other, a spring incased in each of said barrels, and a shackle connecting said barrels and compassing or forming a bearing for said spring or springs, substantially as set forth.

2. In a spring hinge, the combination of a stationary hollow section and a swinging hollow section, having coincident studs and sockets on their adjacent edges, respectively, a spring incased or set in each of said sections,

and a shackle connecting said sections and compassing or forming a bearing for said spring or springs, substantially as set forth.

3. In a spring hinge, the combination of the articulated sections or barrels, one having a bevel-edged flange at one end, a spring incased in each of said sections or barrels, a shackle connecting said sections or barrels and compassing said spring or springs, and a clamp-plate having inwardly beveled end-flanges and bottom-edge studs, to engage said bevel edged flange, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 23d day of September, A. D. 1893.

FRANCIS KEIL.

Witnesses:
JAS. J. RATSCHER, Jr.,
CHARLES HAUHEIL.