

R. Scheidler,

Door Spring.

N^o 59,082.

Patented Oct. 23, 1866.

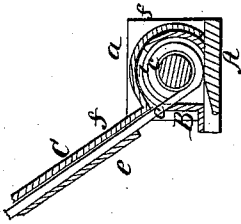


Fig. 5.

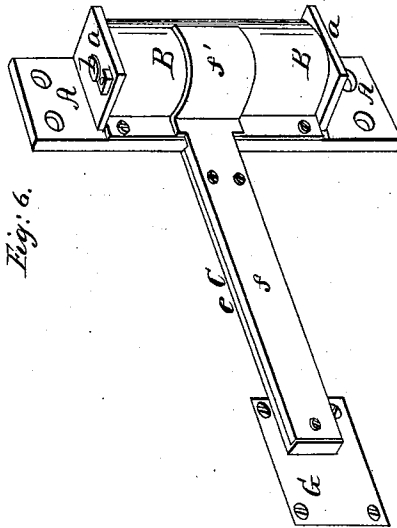


Fig. 6.

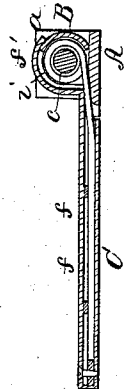


Fig. 4.

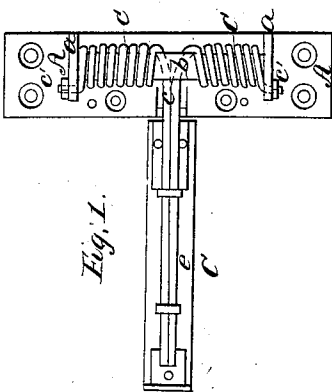


Fig. 1.

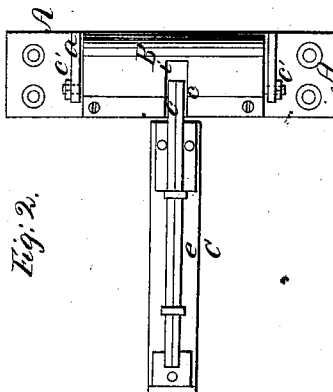


Fig. 2.

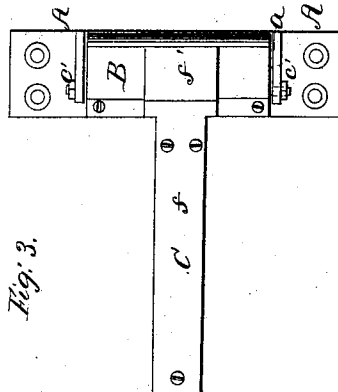


Fig. 3.

Witnesses:
R. J. Campbell
Edw. Schafer

Inventor:
R. Scheidler
Mass. Norwich & Lawrence

UNITED STATES PATENT OFFICE.

REINHARD SCHEIDLER, OF NEWARK, OHIO.

IMPROVEMENT IN DOOR-SPRINGS.

Specification forming part of Letters Patent No. 59,082, dated October 23, 1866.

To all whom it may concern:

Be it known that I, REINHARD SCHEIDLER, of Newark, in the county of Licking and State of Ohio, have invented a new and Improved Door-Spring; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a view of the spring without the covers. Fig. 2 is a similar view with the spring-coil covered by its guard-plate. Fig. 3 shows the spring complete. Figs. 4 and 5 are sectional views of the spring. Fig. 6 is a perspective view of the spring as it would appear if applied to a door.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improvement on that class of springs for doors, gates, &c., in which a tongue is acted upon by a spiral spring that is inclosed within a box secured to the door-frame, said tongue being forced by its spring against the door and allowed to vibrate as the door is opened or closed.

The nature of my invention consists in the employment of two coiled springs having their outer ends secured to the ends of the spring-box, which incloses the coils by means of nuts, so that the adjusted power of the springs can be retained, the said nuts being screwed upon screw-threaded ends of the wire or metal of which the springs are formed, and caused to jam against fixed shoulders of the support of the springs.

The invention further consists in stiffening the spring-tongue and affording its end nearest the spring-box a firm bearing upon this box, so that in vibrating this tongue its heel shall move in the arc of a circle concentric to the axis of the coils, and thus prevent an undue compression of the coils at their inner ends. At the same time the heel of said tongue forms a cover for the slot in the spring-box, and excludes water, dirt, &c., therefrom, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a plate, which is secured rigidly to a door-frame or gate-post, and *a a* are two lugs, which are

secured to said plate at a suitable distance apart, so as to form the ends of the spring-box B, and also to serve as end supports for a rod, *b*, around which two coiled springs, *c c*, are wound. The outer ends of these springs *c c* have threads cut on them, and they are passed through holes through the lugs *a a*, and provided with nuts *c' c'*, as shown in Fig. 1. These springs *c c* are wound around the rod *b* in the same direction, and their inner ends are straightened out and brought together, as shown in Figs. 1 and 2, for the purpose of forming a part of a tongue or lever, C.

The lever-tongue C is composed of two narrow plates, *e f*, of a suitable length, which plates are secured together so as to inclose the straight ends of the springs. The ends of the springs are secured to the plate *e* by means of staples and slots, so that a rigid connection is made for stiffening the said ends of the springs nearly to the point where they are bent around the pin *b* to form the spring. The plate *f* serves as a cover for the ends of the springs and also as a means for stiffening them.

The spring-box *b* is of a circular form, and it is fitted between the lugs *a a*, and secured to the plate A, so as to form a cover for inclosing the coils *c c*, and also to form a bearing for the inner end of the tongue C. This tongue is constructed with a curved flange, *f'*, on the portion *f*, which fits snugly upon the spring-box B, and covers up the slot *i* in the box B, which is intended for allowing the tongue C to vibrate. This curved flange on the tongue is intended more particularly to press upon the surface of the box B and to afford the inner end of said tongue a firm support, so that the strain will come upon the box B, inclosing the spring-coils, instead of upon that portion of the straightened ends of the springs in rear of the tongue.

Without the flange *f'*, those portions of the springs *c c* which extend from the coils to the end of the lever C would receive all the strain, and would soon become bent, so that the springs would not close the door; but by having the flange on the rear end of the lever C the power of the springs is transferred directly to the stiff portion of the lever, and the objection mentioned above will not arise.

The use of two coiled springs, *c c*, upon a fixed rod, *b*, brings the tongue C at an intermediate

point between the ends of the plate A, so that the force which is applied to the lever or tongue C will operate equally upon both springs.

The mode of securing the outer ends of the coils *cc* to the fixed lugs *aa* by means of nuts *c'c'*, which screw upon screw-threaded ends of the spring wire, the adjusted tension or power of both springs can be retained, and both springs may thus be made to act equally.

In Fig. 6 I have represented the spring arranged as it would appear if applied to a door or gate. The plate G is merely a bearing-plate for the outer end of the tongue C to slide upon.

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

1. The tongue C, in combination with the coils *cc*, secured to the lugs *aa* in the manner described.

2. Securing the inner straight ends of the spring-coils *cc* to a stiff tongue, C, which is constructed substantially as described.

3. The combination of the spring-coils *cc*, tongue C, and retaining-nuts *c'c'*, with the slotted box-cover B, substantially as described.

4. Sustaining the inner end of the lever C upon the box B or its equivalent by means of a curved flange, *f'*, formed on said lever, substantially as described.

Witness my hand in the matter of my application for a patent on a door-spring this 1st day of January, 1866.

REINHARD SCHEIDLER.

Witnesses:

GEO. M. GRAPER,
J. M. CONNEL.