D. Renshaw.

Spring Hinge.

No. 98,709. Patented Jan. 11, 1870

Fig. 1.

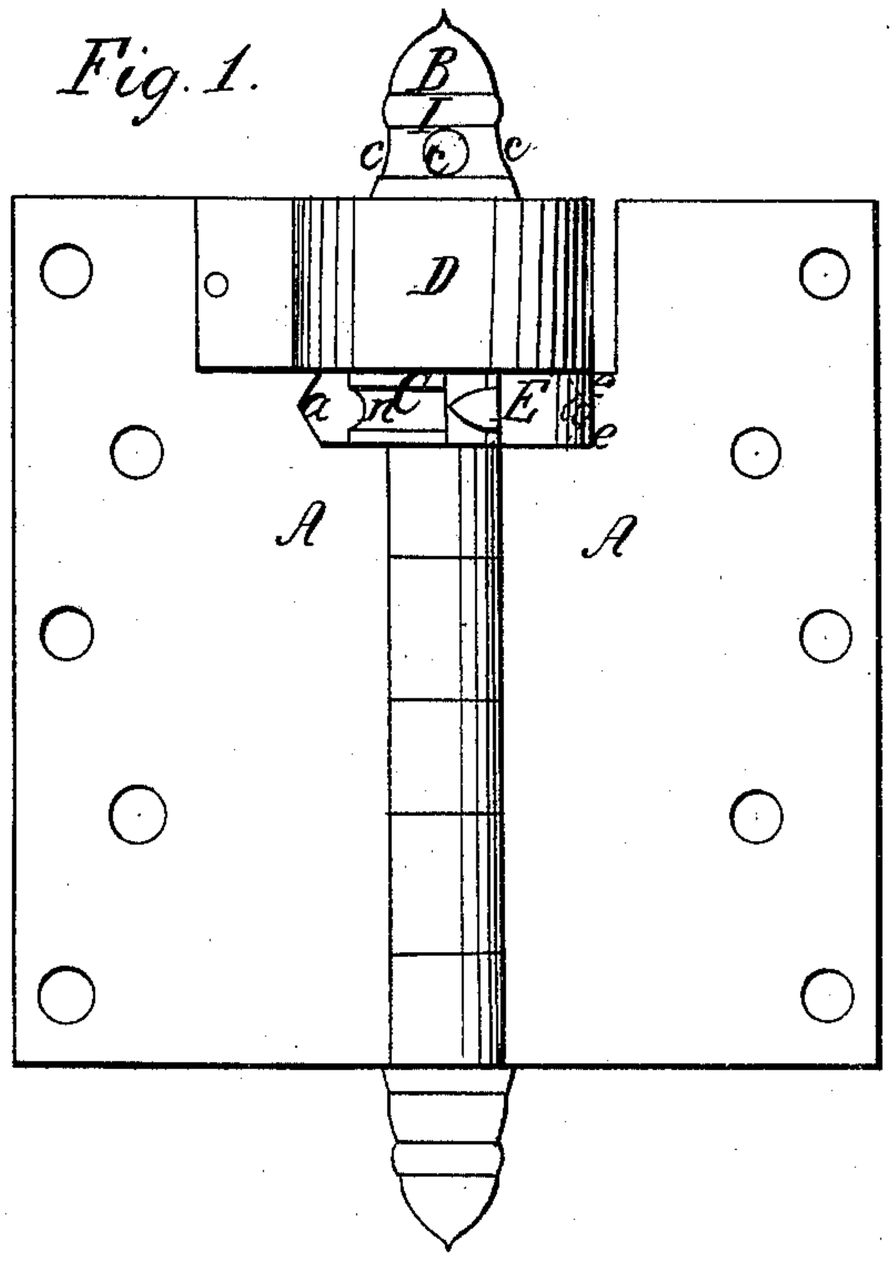


Fig. 2.

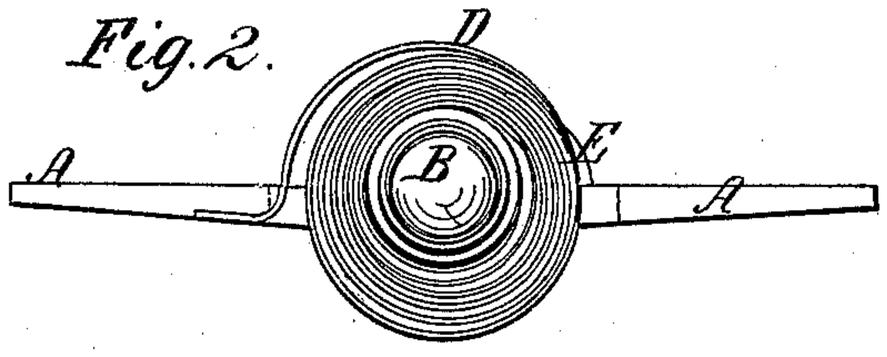
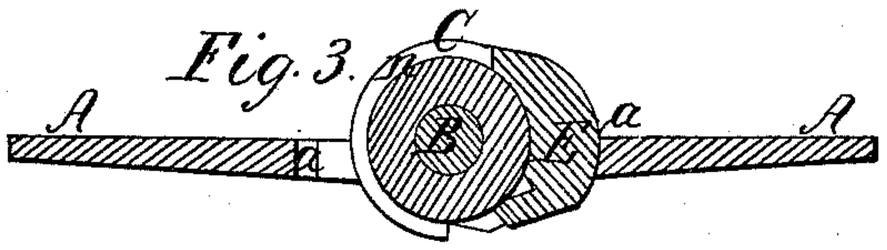


Fig. 3.



Witnesses;

S. P. C. Glover

W. A. Donnelly

Fig. 4

Fig. 5.

Inventor;

David Renshaw

United States Patent Office.

DAVID RENSHAW, OF BROOKLYN, NEW YORK, ASSIGNOR TO EDWARD P. BRAY, OF ELIZABETH, NEW JERSEY.

Letters Patent No. 98,709, *dated January* 11, 1870; *antedated January* 8, 1870.

IMPROVED SPRING-HINGE.

The Schedule referred to in these Letters Patent and making part of the same.

Specification of certain Improvements in Spring-Hinges invented by DAVID RENSHAW, of Brooklyn, in the county of Kings, and State of New York.

Nature and Objects of the Invention.

This invention relates to a spring-hinge, having a recess formed in one or both ends of the wings, for the reception of a coiled spring; and consists in the construction of the ratchet by which the tension of the spring is adjusted, in its combination with other parts, and in certain improvements hereinafter described, which are connected therewith.

Description of the Accompanying Drawings.

Figure 1 is a side elevation of a hinge complete, which embodies my present improvements, in which drawing the hinge is represented as open, or the wings extended, and the spring wound up two notches of the ratchet-wheel.

Figure 2 is a plan of the same.

Figure 3 is a transverse section, showing the parts below the line X X of fig. 1.

Figure 4 is a detail view of the pawl or ratchet.

Figure 5 is a vertical section of the same.

General Description.

A A are the wings of the hinge, which are constructed with a notch or recess in the upper part, next the axis, for the reception of the spring and the enlarged portion of the centre-pin of the hinge.

B is the centre-pin of the hinge, on which the ratchet-wheel C is cast or otherwise secured in some suitable manner.

D is the spring of the hinge, the outer end of which spring is attached to one of the wings A, and the inner end to the centre-pin B.

E is the curved pawl or ratchet, by which the tension of the spring is adjusted and secured, a portion of which pawl is made to fit into triangular or V-shaped recesses *a a*, formed in the wings of the hinge, for its reception.

These recesses are more clearly shown in fig. 1, in full lines in the left-hand wing of the hinge, and in dotted lines on the right-hand side, where the recess is covered by shoulders *e e*, of the pawl E. This pawl is made, in the curved form represented in figs. 3 and 4, the greatest portion of the inside thereof being so formed as to fit the contour of the periphery of the ratchet-wheel, as shown.

On the inner side of the curved pawl is a rib or projection, *i*, which extends nearly the whole length of the pawl, and fits into a depression, *n*, made to receive it, in the ratchet-wheel C.

The shoulders *e e*, of the pawl E, are made to project over the edges of the V-shaped slots in the wings of the hinge, and when the pawl is in position for securing the tension of the spring, these shoulders abut or rest against one of the wings of the hinge, and thereby resist the reaction of the spring.

This curved pawl is also made thinner at the end farthest from the shoulders *e e*, to allow it to be conveniently inserted into place, and manipulated in the operation of adjusting the tension of the spring.

The centre-pin B is formed with a recess to receive the spring, between the head or top I thereof, and the ratchet-wheel C, and the head I is also provided with a hole or holes, *c c*, extending through it, for the insertion of a pin, to wind up and adjust the spring.

In adjusting the tension of the spring after the hinge is placed upon the door, a pin is inserted in one of the holes *c c*, and the spring being drawn up to a trifle more than the proper tension, the ratchet or pawl E may then be slipped into place, and the end of the pawl dropped into the proper notch of the ratchet-wheel.

The construction described not only secures the spring in adjustment, and prevents any reasonable possibility of the breaking or giving way of the ratchet, and makes it independent of the doubtful security of a rivet, but it also prevents the possibility of the centre-pin working upward out of place, by means of the V-shaped portion of the outer side of the ratchet fitting into a corresponding recess in the wings of the hinge, and the rib *i*, on the inner side of the said pawl, fitting into the groove *n* formed in the ratchet-wheel to receive it.

This construction may be somewhat varied, and yet accomplish the same purposes, and embody the same invention; as, for example, holes instead of notches may be made in the ratchet-wheel, to receive the end of the pawl, formed like a pin to fit into them, or the ratchet-wheel may be made V-shaped, and fit into a corresponding groove in the pawl.

One of the wings of the hinge may also have an ornamental projection, in the line of the centre-pin, cast upon it, if desirable, as shown at the lower end of the hinge, in fig. 1, so as to be an apparent continuation of the centre-pin.

Claims

I claim, as my invention—

1. The combination of the ratchet-wheel C and the curved pawl E, fitting between said ratchet-wheel and one or both of the wings of the hinge, and abutting against one of them, substantially as hereinbefore set forth.

2. The combination of the recesses *a a*, in one or

both of the wings of the hinge, and the pawl E, so constructed as to fit into said recess or notch, and thereby secure the pawl from working out of place, substantially as hereinbefore set forth.

3. The combination of the pawl E, ratchet-wheel C, and the wings A A, when the said parts are so constructed that the interposition of the pawl E between the centre-pin and one or both of the wings of the hinge, shall prevent the centre-pin from working out of place, substantially as hereinbefore set forth.

DAVID RENSHAW.

Witnesses:
I. H. How,
W. O. Donnelly.