

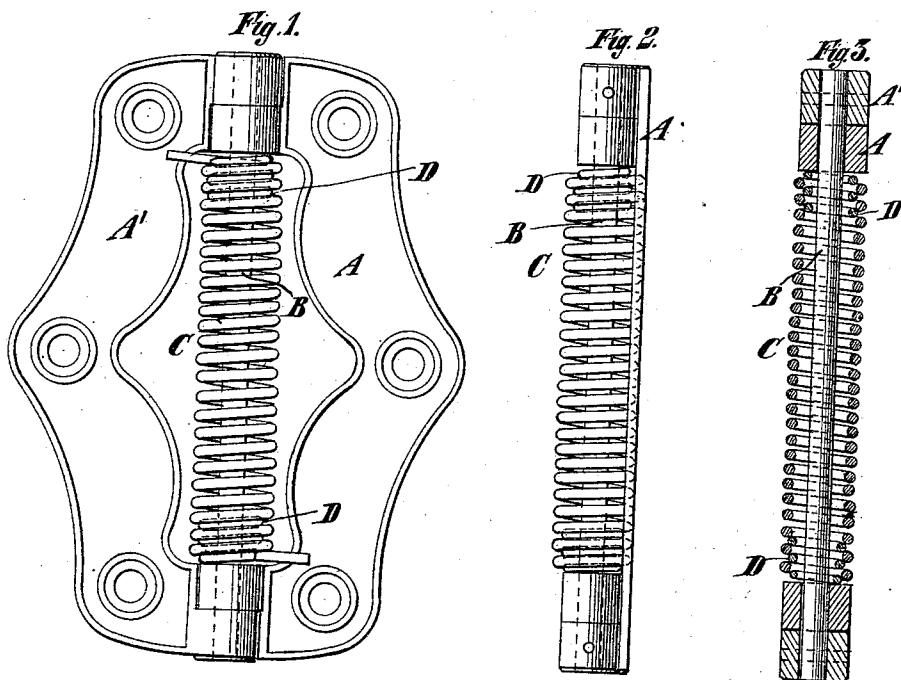
(Model.)

J. SPRUCE.

SPRING HINGE.

No. 277,370.

Patented May 8, 1883.



Witnesses:
J. H. Keane
James R. Bowen.

Inventor:
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UNITED STATES PATENT OFFICE.

JAMES SPRUCE, OF WATERBURY, CONNECTICUT, ASSIGNOR TO SCOVILL
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SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 277,370, dated May 8, 1883.

Application filed May 1, 1882. (Model.)

To all whom it may concern:

Be it known that I, JAMES SPRUCE, of Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Spring-Hinges, of which the following is a specification.

My improvement relates to spring-hinges of the kind in which a spiral spring is fitted to the pintle, so that as the leaves of the hinge are moved laterally to each other the spring winds or unwinds.

The object of my improvement is to obviate or reduce the wearing of the spring in rubbing against the pintle of the hinge.

To this end my improvement consists in the combination, in a hinge having a spiral spring applied to its pintle, of a wire or wires wound so as to be of the same pitch as the spring introduced between the pintle and one or both end portions of the spring, and fitted to the space between the coils of the spring. These wires form sleeves which will remain in place when once fitted to the spring, and as much more friction will be generated between them and the spring than between them and the pintle, they will always move with the spring.

In the accompanying drawings, Figure 1 is a face view of a hinge embodying my improvement with the leaves extended. Fig. 2 is an edge view of the same, and Fig. 3 is a sectional edge view of the same.

Similar letters of reference designate corresponding parts in all the figures.

A A' designate the leaves of the hinge, and B designates the pintle thereof. These parts are fitted and secured together in the usual manner.

C designates a spiral spring fitted to the pintle between the bearers of the leaf A, and having its ends extended, one over each of the leaves.

D designates spirally-wound wires introduced between the end coils of the spring C and the adjacent portions of the pintle B. They are wound so as to be of the same pitch as the spring, and fit in the space between the coils of the spring. Then they will remain in the position to which they are adjusted, and as the exterior spring contracts slightly in diameter when the hinge is oper-

ated, it will bind on the spirally-wound wires and will cause them to move with the spring, and not remain stationary with the pintle. Thus the wear of the spring entailed by its rubbing against the pintle will be obviated. These wires may be wound separately from the springs and inserted afterward.

Of course I may, if desirable, use such a sleeve in connection with one end of the spring only.

I am aware that a spring-hinge has been made in which the spring-power is divided between two springs, one within the other. The inner spring had not its coils fitted to the coils of the outer spring, and was not adapted to turn loosely on the pintle. The inner spring was subjected to abrasion on the pintle, and as the spring force of the hinge was dependent upon it, the hinge became useless for the purpose for which it was designed on the breakage of this spring. I have before patented a spring-hinge having a spirally-grooved sleeve introduced between the pintle and spring and receiving the end portion of the spring in its groove. The wire coil is far less expensive than the spirally-grooved sleeve, owing not only to the cost of material, but also to the expense of the labor involved in its production. As the wire coil fits the coils of the spring, it will, by reason of its resilience, have an extensive and effective contact with the spring. When the spring is compressed in the operation of the hinge it will grip the wire coil tightly and insure its turning with the spring, thus preventing the coil from abrading the spring.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, in a hinge having a spiral spring around the pintle, of a wire or wires wound so as to be of the same pitch as the spring, introduced between the pintle and one or both end portions of the spring and fitted to the space between the coils of the spring, whereby abrasion of the spring is obviated, substantially as specified.

JAMES SPRUCE.

Witnesses:

M. L. SPERRY,
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