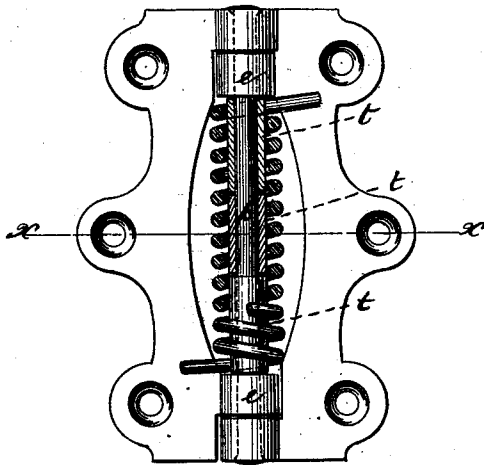


J. SPRUCE.  
SPRING HINGE.

No. 185,704.

Patented Dec. 26, 1876.

*Fig. 1.*



*Fig. 2.*



Witnesses

*H. Littlejohn*  
*W. P. Bee Jr.*

Inventor

*James Spruce*  
*E. J. C. Thomas Atty*

# UNITED STATES PATENT OFFICE

JAMES SPRUCE, OF WATERBURY, CONNECTICUT, ASSIGNOR TO SCOVILL  
MANUFACTURING COMPANY, OF SAME PLACE.

## IMPROVEMENT IN SPRING-HINGES.

Specification forming part of Letters Patent No. **185,704**, dated December 26, 1876; application filed  
October 21, 1876.

*To all whom it may concern:*

Be it known that I, JAMES SPRUCE, of the city of Waterbury, State of Connecticut, have invented certain Improvements in Spring-Hinges, of which the following is a specification:

The object of my invention is to protect the spring from abrasion when the hinge is operated.

Figure 1 is a plan view of my invention, and Fig. 2 a transverse section of the same.

The drawings represent a spring-hinge, the pin *p* of which is surrounded by a sleeve, *t*, loosely fitting thereon. The ends of the wire composing the spring have their bearings on the opposite leaves of the hinge, and the ends of the spring bear on the loosely-fitting tubes on the pin of the hinge. Hence, when the leaves of the hinge are opened, the spring, in contracting, binds on the loosely-fitting tubes,

thereby preventing the pin *p* from abrading and wearing the spring as the hinge is actuated.

I am aware that it is not new to insulate the spring and the pin by means of tubes rigidly secured to the knuckle, and hence I do not claim such matter, broadly considered.

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

The combination, with the spiral spring surrounding the pin of a hinge, of loosely-fitting tubes, placed on said pin, whereby abrading-action is prevented between the spring and pin, substantially as and for the purpose set forth.

JAMES SPRUCE.

Witnesses:

M. L. SPERRY,  
T. R. HYDE, Jr.