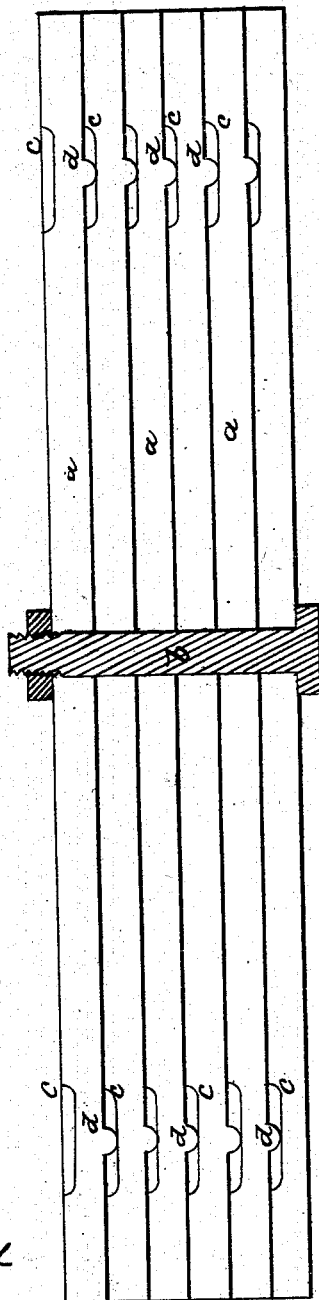


T. SHAW.

Spring.

No. 47,663.

Patented May 9, 1865.



Witnesses  
*E. Cobb*  
*William Myers*

INVENTOR

*T. Shaw*

# UNITED STATES PATENT OFFICE.

THOMAS SHAW, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN SPRINGS.

Specification forming part of Letters Patent No. 47,663, dated May 9, 1865.

*To all whom it may concern :*

Be it known that I, THOMAS SHAW, of the city and county of Philadelphia, Pennsylvania, have invented a new and Improved Mode of Constructing Spring-Plates; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention consists in forming a nib under a groove, for the purpose as hereinafter described.

In order to enable others to use and practice my invention, I will proceed to describe its construction and object.

On reference to the accompanying drawing, which forms a part of this specification, the sketch represents a longitudinal vertical section through the center of an ordinary freight-car spring with ends cut off, of which *a* represents the plates of ordinary-spring steel,

through the center of which is a bolt, *b*, for the purpose of holding them in position. *c* and *d* represent the groove and nib, which alternately lock into each other for the purpose of preventing lateral motion of the plates. This groove and nib are formed in an ordinary punching-machine by having a punch of the configurature of the groove and a die of a shape corresponding to the form of nib *d*.

It will be observed that this mode of constructing springs saves all the slotting and the consequent waste of material and does not weaken the spring.

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

Forming the nib under the groove in the manner set forth, for the purpose specified.

THOMAS SHAW [L. S.]

Witnesses:

E. COBB,

WILLIAM MYERS.