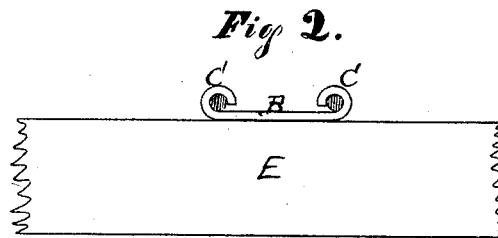
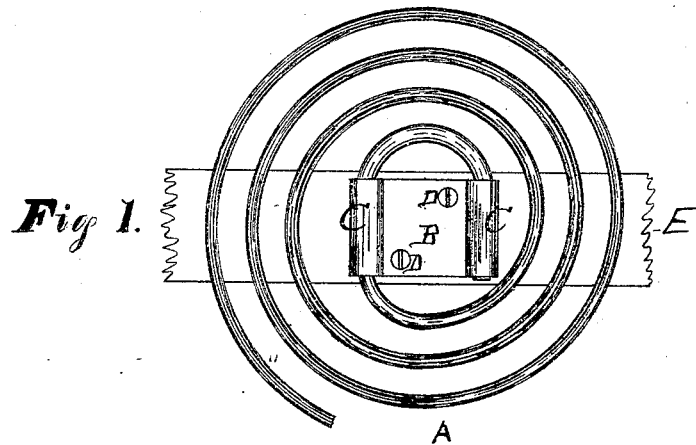


D. V. GRANDALL.

Improvement in Bed-Springs.

No. 114,112.

Patented April 25, 1871.



**Witnesses**

*C. A. Frost,*  
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# United States Patent Office.

DELOS V. CRANDALL, OF CHICAGO, ILLINOIS.

Letters Patent No. 114,112, dated April 25, 1871.

## IMPROVEMENT IN BED-SPRINGS.

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

### *To all whom it may concern :*

Be it known that I, DELOS V. CRANDALL, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bed-Springs; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a top plan view of my improved bed-spring, and

Figure 2 is a side elevation of the plate for securing the spring to a slat or rail.

Similar letters of reference in the drawing indicate corresponding parts.

My invention has for its object to improve the means for attaching helical springs to bed-slats, rails, &c., for which Letters Patent of the United States were granted to me April 3, 1866, numbered 53,579. In said patent the lower portion of the helical coil is received in a hole in the slat and secured in place by a plug.

As this construction is somewhat objectionable, from the fact that the slats are weakened by cutting the holes, I propose to leave the slats uncut and to

secure the bottom of the springs to the slats by means of screws or rivets passing through a metal plate attached to said spring.

In the accompanying drawing—

A is the coiled spring, to the apex of which is firmly secured the metal plate B, as shown, with the ends C bent over two opposite sides of the spring.

The spring is secured to the slat E by means of one or more screws or rivets, D, passed through the plate into the slat, as fully shown in the drawing.

Having thus described my invention,

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

Coiled bed-springs, secured to slats or rails by means of the metal plate B and one or more screws or rivets, substantially as described, for the purpose specified.

The above specification of my invention signed by me this 19th day of September, 1870.

DELOS V. CRANDALL.

Witnesses :

G. H. FROST,

E. A. ELLSWORTH.