W. S. GRAY.
Bed-Spring.

No. 221,054. Patented Oct. 28, 1879.

Fig. 1.

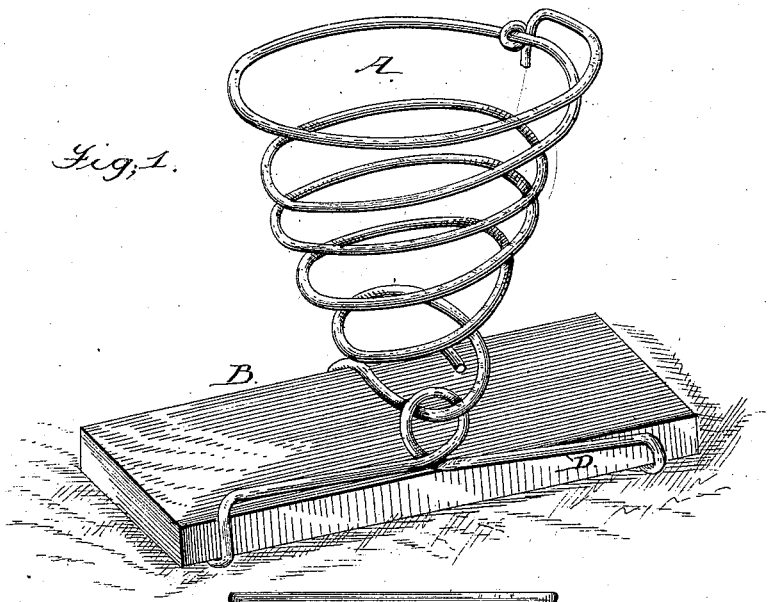



Fig. 2.

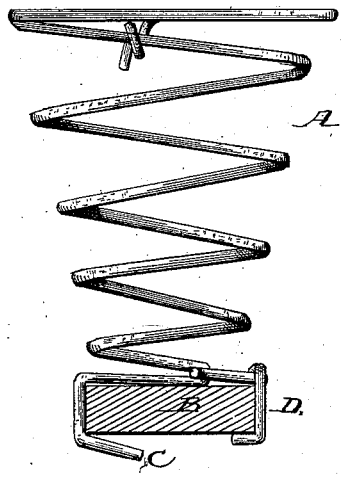
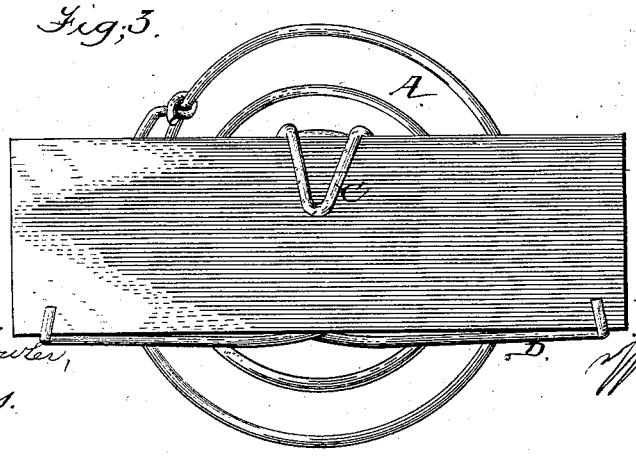



Fig. 3.




Witnesses;
P. Walter Fowler,
A. N. Evans.

Inventor;
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# UNITED STATES PATENT OFFICE.

WILLIAM S. GRAY, OF LEOMINSTER, MASSACHUSETTS.

## IMPROVEMENT IN BED-SPRINGS.

Specification forming part of Letters Patent No. **221,054**, dated October 28, 1879 ; application filed September 20, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM S. GRAY, of Leominster, in the county of Worcester and State of Massachusetts, 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 invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to means for fastening bed-springs directly to the bed-supporting slats of bedsteads.

Springs for this purpose have heretofore been made with a spring-clamp that slips onto one edge of the slat, or by inclosing the width of the slat with an unyielding clasp, as the one patented to me bearing date October 10, 1876, No. 182,998.

The objections to the first are that the tension does not hold the spring sufficiently firm to the slat, as it allows the base to rock, which causes the spring to topple, and is also liable to become detached.

The second device is objectionable because the clasp does not conform to the varied width of slats.

The object of my invention is to overcome these important objections by producing a spring-fastening device that will conform to any desired width of slats, and hold the spring firmly without liability to become accidentally detached therefrom.

The invention consists of a hook which is formed from a continuous portion of the wire from which the spring is made, combined with a fastening device operating with a spring for adaptation to different-width slats, which I term a "flexible latch or clasp," which, when connected with the hooked spring, completes the device.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a perspective view of the spring clasped to the slat. Fig. 2 is an elevation, showing the end of the slat. Fig. 3 is an inverted plan or bottom view, showing the point of the hook and lower projections of the flexible clasp. (Not shown in Fig. 1.)

By referring to the drawings, Fig. 1, it will be seen that the flexible clasp D is made with a coil near the center, (one or more.) This is to give it greater elasticity, and also forms an eye by which it is attached to the spring A. It also has hooks, turned down at each end to grapple with the edge of the slat B, and formed so as to allow one or both ends of the clasp B to project above the slat D, to facilitate manipulation.

The receptacle of the hook C, as seen in Fig. 2, is made wider at the hooks' point to admit slats of diversified thickness.

It is obvious that when the eye of the latch or clasp D is placed within the bottom coil of the spring A, and the hook C is hooked to one edge of the slat B, and the ends of the latch or clasp are impelled to the opposite edge, it gives a wringing draft or tension, by which a rigid fastening is attained.

The operation is as follows: Place the eye of the latch or clasp D in the bottom coil of the spring A by sliding it around the hook C; then hook the spring to one edge of the slat B, and catch one end of the clasp over the opposite edge; then force the other end out until it will catch over the same edge of the slat.

It will be apparent that the ends of the clasp D may be so formed as to catch into the edge of the slat instead of passing underneath it without departing from the spirit of my invention.

I use them so on slats of unusual thickness by driving the hook into one edge of the slat and catching the hooks of the clasp into the opposite edge.

What I claim as my invention is—

1. The spiral spring A, having its lower coil extended to form the hook C, to pass under one side of the slat, in combination with the spring clasp or latch D, centrally coiled, to engage the lower coil of the spring, and having its ends bent to pass under the other side of the slat and fasten the spring thereto, substantially as described.

2. A spiral spring, A, having horizontal hook C, extended from its lower coil, in combination with a spring clasp or latch, D, engaging the lower coil of the spring, and having its ends bent to extend over and engage the side of the slat opposite the hook, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of September, 1879.

WILLIAM S. GRAY.

Witnesses:
W. E. CHAFFEE,
P. W. PERRY.