W. J. READ.
Bed-Spring.

No. 197,405. Patented Nov. 20, 1877.

Fig. 2.

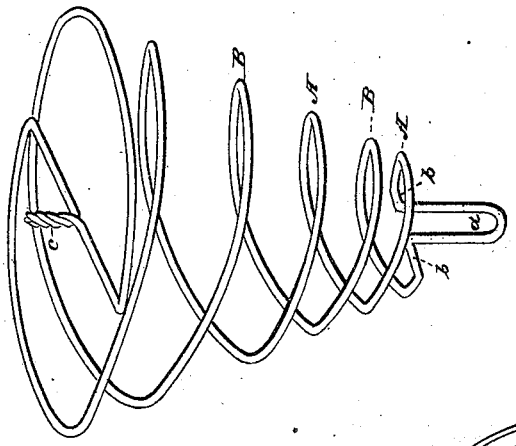


Fig. 3.

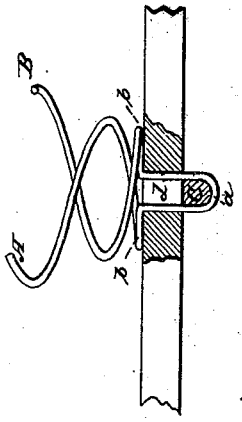


Fig. 5.

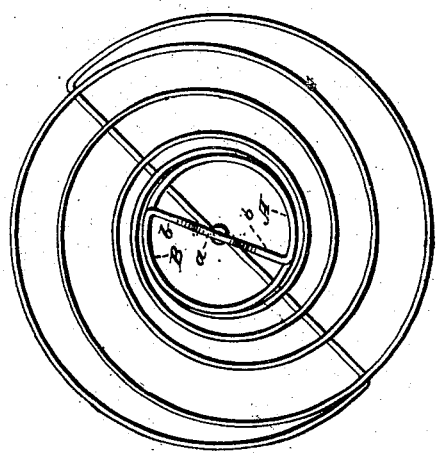


Fig. 1

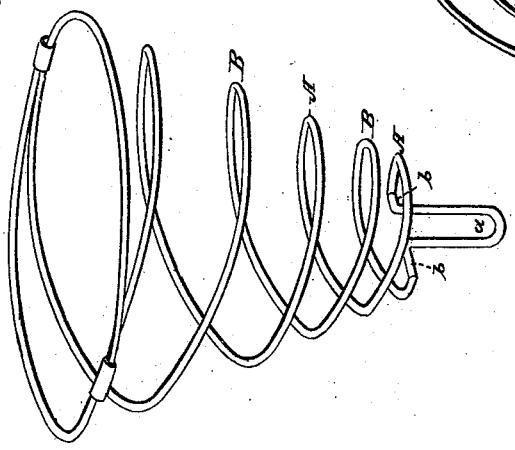
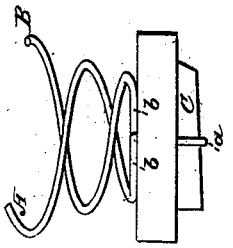


Fig. 4.



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Att'ys.

UNITED STATES PATENT OFFICE.

WATERMAN J. READ, OF MOHAWK, NEW YORK, ASSIGNOR OF A PART OF HIS RIGHT TO BYRON A. STONE AND HENRY D. ALEXANDER, OF SAME PLACE.

IMPROVEMENT IN BED-SPRINGS.

Specification forming part of Letters Patent No. **197,405**, dated November 20, 1877; application filed October 18, 1877.

To all whom it may concern:

Be it known that I, WATERMAN J. READ, of Mohawk, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Spiral Springs for Bed-Bottoms and upholstering purposes generally; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to springs of the class used in bed-couch and chair bottoms, and for upholstering purposes generally; and it consists in an improved construction and arrangement of parts, substantially as hereinafter more fully described, and pointed out in the claims.

In the drawing, Figure 1 is a perspective view of my improved spring. Fig. 2 is a similar view, showing a modification in the manner of uniting the two ends of the coils. Fig. 3 is a side elevation of the bottom part, partly in section. Fig. 4 is an end view, these two last figures showing the method of securing the spring to the slat; and Fig. 5 is a bottom plan.

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

To make my improved spring, I take a piece of wire of suitable length and bend or double it in the middle, as shown at *a*. Next, each end is bent at a right angle, forming a step or shoulder, *b b*, on each side of the loop *a*, after which each end is coiled, one of the coils, A, lying between the parts or rounds of the other coil B, and both coils winding the same way or tending in the same direction.

In this manner it will be seen that two distinct and separate coils are formed, A and B, the ends of which may be united either, as shown in Fig. 1, by attaching, in any suitable manner, the end of each coil to the side of the topmost round of the other coil, or the ends of each coil may be bent and twisted, or otherwise secured in the middle, as represented in Fig. 2.

I prefer to use this last method of uniting the ends of the respective coils A and B when the spring is to be used for bed-bottoms having upper slats upon which the mattress rests, as the staple *c* thus formed will fit into perforations made in the upper slats or spring-slats, whereas the flat-topped double spring represented in Fig. 1 is more suitable for chair-bottoms and upholstering purposes generally.

The manner of securing the springs to the bottom slats of a bed or couch will readily be understood by reference to Figs. 3 and 4. The loop *a* is inserted into a slot, *d*, in the slat or couch-bottom, these slots being arranged at a suitable distance from each other. A key or wedge, C, is then inserted through the loop under the slat, which prevents the spring from being displaced or tipped over.

Among the advantages which result from my improvement are the following: First, my improved double-coiled spring is self-sustaining to a much greater extent than a single-coil spring, inasmuch as, the coils winding in the same direction, and the end of each securely fastened to the one opposite, the two coils A and B mutually support each other laterally, thereby maintaining the equilibrium of the spring under pressure; second, the bearing-surface of my improved spring being level, and not slanting, as a single-coil spring, it forms a better support for the superincumbent weight, and, besides, precludes any tendency to twist or turn sidewise and downward, which invariably results from the slant or spiral form of the uppermost coil or round in a single-coil spiral spring; third, springs constructed in this manner can be produced at less cost than the single-coil springs ordinarily in use, inasmuch as a smaller size of wire is required for my improved double-coil spring than for a single-coil spring of equal capacity, and having a corresponding number of coils, because the coils mutually support and sustain each other.

It follows that the weight of the springs (an important item in the better classes of bed-bottoms and furniture) is materially decreased, and the cost of transportation lessened.

Having thus described my invention, I claim

and desire to secure by Letters Patent of the United States—

1. A double-coiled spiral spring made from one piece of wire bent at the middle, and twisting each end to form two coils, A and B, the rounds of one coil, A, lying between the rounds of the other coil, B, and both coils tending in the same direction, substantially as and for the purpose hereinbefore set forth.

2. A double-coiled spiral spring made from one piece of wire bent at the middle to form the loop *a* and shouders *b b*, and then twisting each end to form two coils, A and B, the rounds of one of the coils, A, lying between those of the other coil, B, and both coils tending in the same direction, and united to each other at the top, substantially as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WATERMAN J. READ.

Witnesses:

AUGUST PETERSOHN,

WM. BAGGER.