

No. 641,660.

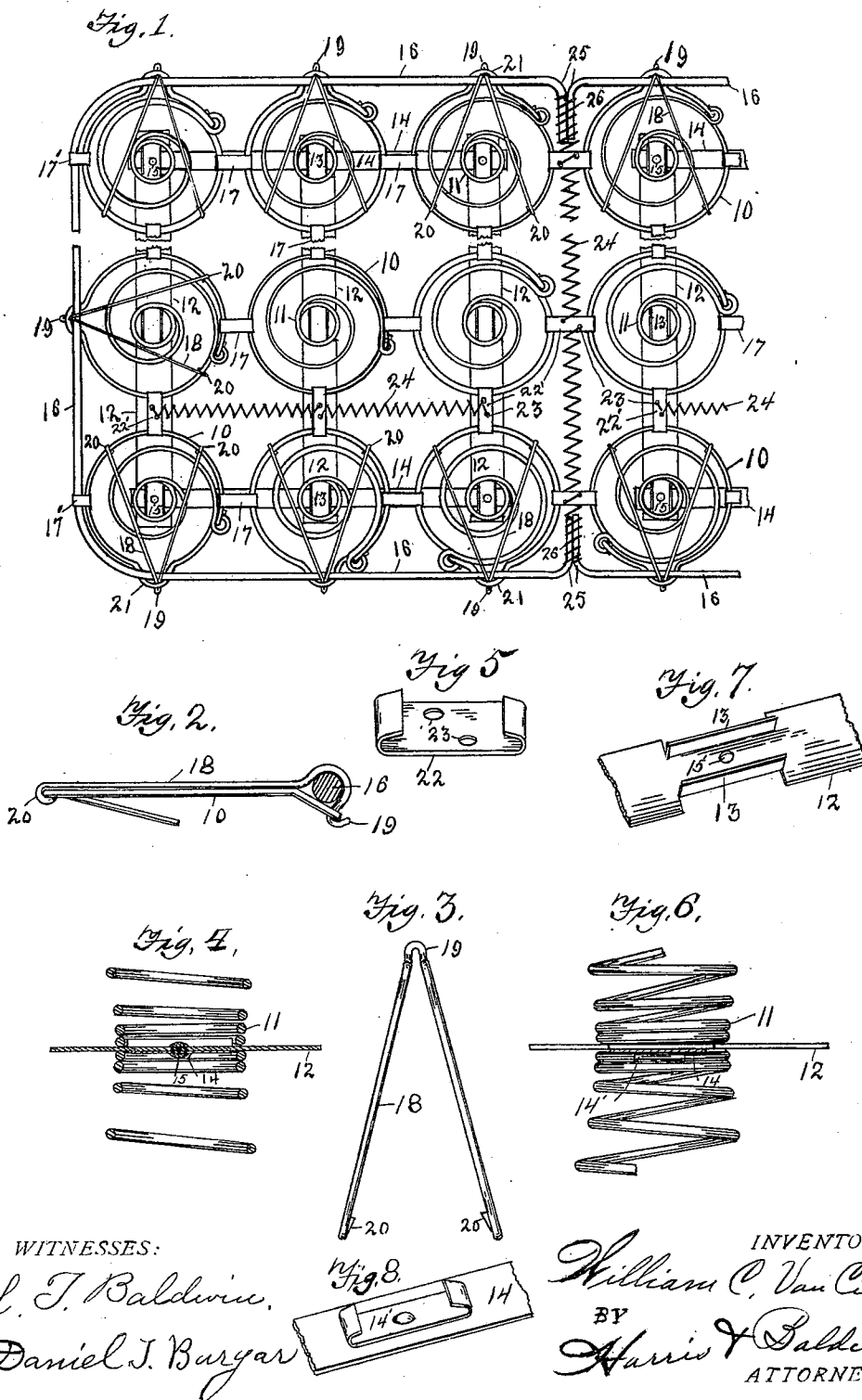
Patented Jan. 16, 1900.

W. C. VAN CISE.

SPRING BED.

(Application filed May 8, 1899.)

(No Model.)



UNITED STATES PATENT OFFICE.

WILLIAM C. VAN CISE, OF MAYVILLE, NEW YORK.

SPRING-BED.

SPECIFICATION forming part of Letters Patent No. 641,660, dated January 16, 1900.

Application filed May 8, 1899. Serial No. 716,043. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. VAN CISE, a citizen of the United States, residing at Mayville, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Spring-Beds, of which the following is a specification.

The objects of my improvement in a spring-bed are, first, a binding-lock for the heavy rim-wire; second, a hinge for spring-beds made in two parts; third, a stay for the ends of cone-springs in the beds, and, fourth, a connecting-strip for the centers of the double cone-springs and cross-strip.

Letters Patent were issued to me October 13, 1896, for a connecting-strip, and October 12, 1897, for a rim-binding lock. My present improvement on said strip and lock and my other objects are attained as shown in the accompanying drawings, in which—

Figure 1 is a plan view of a spring-bed made with two parts hinged together and having the central portion and one side broken away. Fig. 2 is a side view of binding-lock with rim-wire in section. Fig. 3 is a plan view of my improved binding-lock. Fig. 4 is a sectional view of the middle part of a double cone-spring and connecting-strip in position. Fig. 5 is a perspective view of my improved clip. Fig. 6 is a side elevation of the middle portion of a cone-spring with connections. Fig. 7 is a detail perspective view of a section of improved connecting-strip with turned edges to lock on the inside of the middle coils of the cone-springs. Fig. 8 is a detail view of a section of cross-strip with clip for attaching to the coils of the spring.

Similar numerals refer to similar parts in the several views.

10 represents the cone-spring; 11, the middle or smallest coils of the cone-spring; 12, the metal connecting-strips, and 13 13 the turned edges of said strip.

14 is the cross-strip, which is fastened to strip 12 by rivet 15 and to spring 10 by clip 14'. 16 is the rim-wire.

17 is the common form of connecting-clips. 18 is the improved binding-lock for rim-wire, and 19 is the turned point or catch for said lock, and 20 20 are the two ends attached to spring 10, as shown.

21 is the bent projection on spring 10, on which rim 16 rests.

22 is my improved connecting-clip, which has holes 23 23 punched therein, so that spiral connecting-wire 24 may be turned through or locked therein, as in the end clips 22'.

In order that a double cone-spring bed may be packed into smaller space, it is necessary to make it in two parts and hinge the two parts together. This I accomplish in the following manner: The rim-wires 16 16 of each part are bent in from each side at 25 25 on the upper side of the bed, and their ends 26 26 are encircled by the end of the spiral stay 24, which extends the entire length of the bed and is locked between each row of springs by being coiled through holes 23 23 in clips 22, thus forming a strong stay and hinge for the two parts at the same time. Rims 16 16 are bent in on the lower side of the bed, as at 25 25, only that the ends extend past the first row of springs and are bound thereto by common clips, as at 17', at the corner of the bed. To hold the cone-springs in perfect form against the hard usage accorded them, it is necessary to stay the top of each spring in every direction and a double cone-spring at both top and bottom. Care must be taken, however, that these stays are not too stiff, but can give and take in all directions, and on this account I have found spiral stays of special value and clip 22 as the best means for holding the spiral stay in correct position between the springs 10 10 and across the spaces in the bed.

In my former patent on a binding-lock for rim-wire I showed a single binding-lock as to the stay-wire across the top of the spring; but I find that the double stay-wires serve a better purpose in bracing the top of the cone-spring and also locking the rim-wire more stiffly, as will be readily understood. In my former patent on connecting-strips, mentioned in this specification, I showed metal strips with a loop upset in the center thereof to engage the middle coil of the double cone-spring. I find, however, that metal strip 12, with turned edges 13 13, serves a better purpose in bracing against the inside of the coil at four different points, thus holding the spring in better shape, and the strip can be

more easily inserted in the spring, since they do not have to be bent down or touched after being turned to position. This saves cost in labor and does the work better. I save about
 5 one strip the length of the bed in making a bed over the old form of looped strip, which I had to bend in order to hold the spring securely. To stiffen cross-strips 14 14, I rivet
 10 clip 14' on the side opposite to connecting-strips 12 12, which clip is the right size to fit closely on the coil of the spring, and the ends are bent around the coil, holding the cross-strip firmly in place and bracing the bed.

It will readily be understood that my edge
 15 rim-wire, binding-lock, and connecting-strips may be used on springs for lounges and chairs, as well as for spring-beds.

I claim as new—

1. In combination with a bed, couch or chair
 20 spring having projections beyond the outer row of coils, a metal binding-rim extending around the edge of the spring and resting on said projections, a binder for said rim which catches under said projection outside of said
 25 rim and has two legs or stays to attach to the coil at widely-separated points to brace and stiffen the end of the cone-spring, as shown and described.

2. In a bed or couch spring, metal connect-
 30 ing-clips to join the cone-springs, openings in said clips made at the angle of coil of a coiled-wire stay, in combination with a coiled-wire stay which passes through said openings in said clips to hold the cone-springs in position,
 35 as shown and described.

3. A spring-bed having double cone-springs, straight and flat metal connecting-strips for the middle of said springs, flanges on the edges of said strips to hold against the inside of said cone-springs, as shown and described. 40

4. In a bed-spring made in two parts, a hinge composed of metal clips having openings therein and connecting the cone-springs in pairs, rim-wires for the two parts turned in-
 45 ward and abutting on each other at each end of the hinge, a spiral coil of wire passing through said openings in the connecting-clips and embracing the ends of the abutting rim-wires, as shown and described.

5. In a spring-bed composed of cone-springs 50 having projections beyond the circumference of the outer coil, a metal rim or edge wire resting on said projections, double binders to hold said rim on said springs, connecting-clips having openings to hold spiral stays, 55 spiral stays to hold the springs and to form a hinge with said clips and rim, connecting-strips for the middle of the cone-springs having flanges turned on the edges to engage and hold the middle of the cone-springs, cross-
 60 strips fastened to said springs, as shown and described.

In witness that I claim the foregoing I here-
 unto subscribe my name in the presence of two witnesses.

WILLIAM C. VAN CISE.

In presence of—

H. H. WARREN,
 N. E. THOMAS.