

(No Model)

A. H. VIEL.  
BED BOTTOM.

No. 583,315.

Patented May 25, 1897.

Fig. 1.

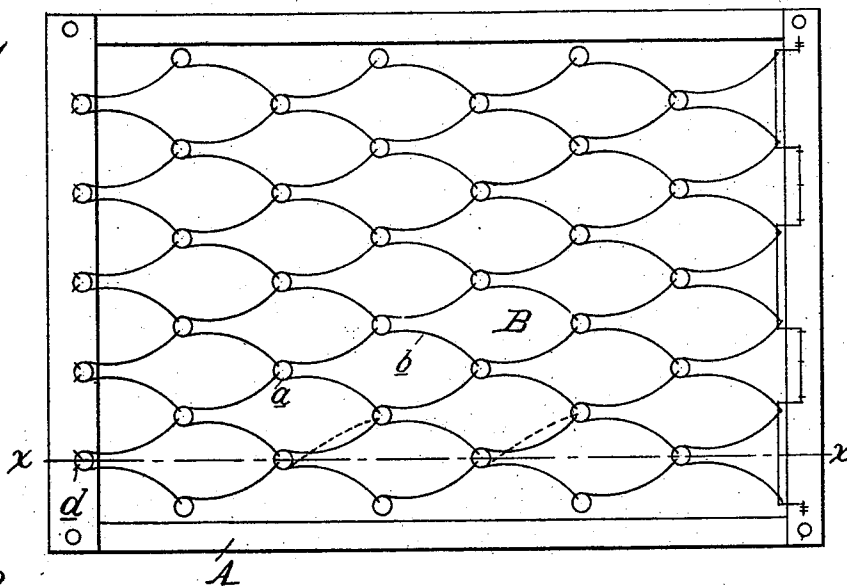


Fig. 3.

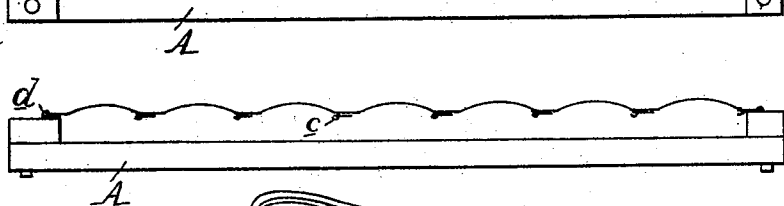


Fig. 2.

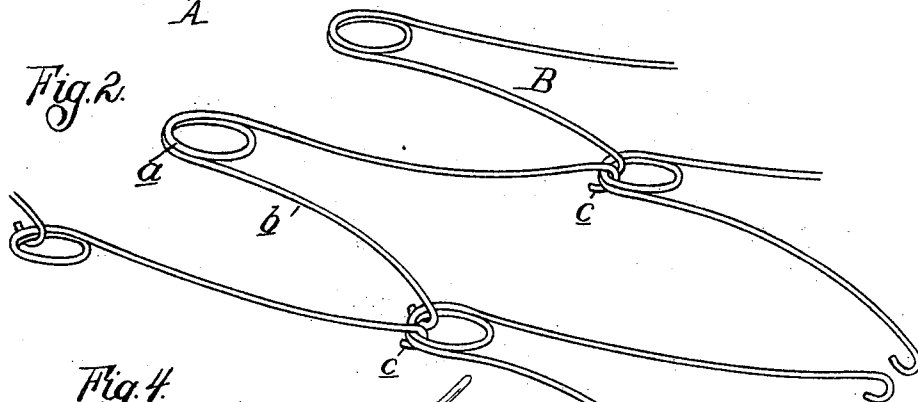
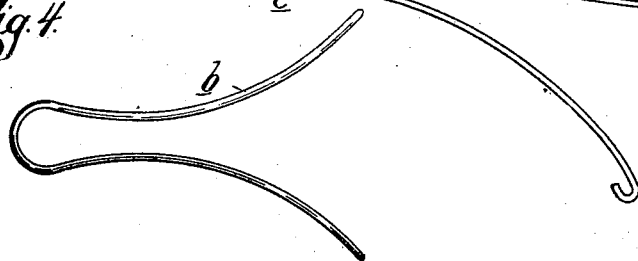


Fig. 4.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ARTHUR H. VIEL, OF FENTON, MICHIGAN.

## BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 583,315, dated May 25, 1897.

Application filed January 18, 1897. Serial No. 619,563. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR H. VIEL, a citizen of the United States, residing at Fenton, in the county of Genesee and State of Michigan, have invented certain new and useful improvements in Bed-Bottoms, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to that class of bed-bottoms which are formed of wire fabric; and the invention consists in a wire fabric formed of separate interlocking compound spring-links of peculiar construction adapted to form a continuous bed-bottom of any desired size, of easy and uniform elasticity, which makes it comfortable to sleep on, while its construction is cheap and simple and obviates the use of special machinery or expensive tools, thereby enabling a small manufacturer to engage in its production.

In the drawings, Figure 1 is a plan view of a bed-bottom of my invention. Fig. 2 is a perspective view of a section of the fabric. Fig. 3 is a vertical section on line *x x*, Fig. 1. Fig. 4 is a modified form of link.

A is the usual supporting-frame, to the head bars of which the ends of the wire fabric are secured.

B are spring-links, each constructed of a single piece of spring-wire with a flat coil-spring *a* and spring-arms *b* substantially in the plane of the coil, outwardly spreading, curved, or arc-shaped in opposite directions and provided at the ends with downwardly-projecting hooks *c*, substantially as shown in the drawings.

In constructing the fabric the links are arranged lengthwise in transverse rows, the end rows being secured by staples *d* or in any other suitable manner to the head-bars of the frame and the intermediate transverse rows being interlocked with each other and with the end rows by engaging the spring-links of each row correspondingly at one end with the hooks and at the other ends with the coils of the adjacent rows, all in such manner that each link has its arms hooked into the coils of two adjacent links in the adjacent row.

In every alternate row there will be two end links the outer arms of which cannot be connected in the usual way. These may be either engaged in the same coil with the other

arm or secured to the side rails of the frame, or preferably half-links are secured, as shown in the drawings. I preferably curve the arms of the spring-links also in a vertical plane, as shown in Fig. 3, for the purpose of reducing the wearing contact between the fabric and the under side of the mattress. This also imparts more elasticity to the fabric.

In my construction the spring-links have a certain freedom of motion to adjust themselves under uneven pressure or strain, as the hooks can freely shift their position within the coils and thus prevent any distortion of the links. Further, each link forms a compound spring—that is, the coil acts as a spring for the same in a lateral direction—while the arms themselves on account of their curvature act as springs in the longitudinal direction, and as they are oppositely curved there is no tendency toward displacement under strain.

The arms of the links being curved inwardly compel the hooks at the ends of two adjacent arms in two adjacent links to engage with the coil of another link at points some distance apart, thereby distributing the strain more evenly to the coil and preventing distortion thereof. Besides, a greater elasticity is imparted to the fabric by this arrangement.

In my construction of link the diameter of the coil is much less than the distance between the hooks on the ends of the arms. Thus the arms are oblique to each other, and by reason of this construction the coils and arms in the completed fabric arrange themselves in oblique lines—that is, more or less diagonally in relation to the supporting-frame. This arrangement prevents the formation or occurrence of longitudinal ridges, which are so unpleasant to the sleeper. Moreover, the fabric is made homogeneous by uniformly dividing the surface into lozenge-shaped meshes, which distributes the strain more evenly in all directions. It will also be noticed that the links are curved in their entire extent—that is, there are no straight portions of wire—and the utmost degree of elasticity is thus obtained from a minimum of wire.

It will also be understood that the form of the link may be modified in various ways within the spirit of my invention. Thus the coil may be made of one or more turns of wire, and the arms may be curved more or less,

and the relative dimensions of the parts may be changed. The links may also be made of heavier or lighter wire, according to the degree of elasticity and strength required.

5 What I claim as my invention is—

1. The combination with the supporting-frame, of a wire-fabric bed-bottom composed of a series of interlocked transverse rows of substantially V-shaped compound spring-  
10 links, each link formed of spring-wire with a flat circular coil at one end and with two like arc-shaped spring-arms obliquely extending therefrom and terminating in hooks at the other end, each link in a row connecting the  
15 hooked ends of the adjacent arms of two links in the preceding row of links with the coils of two adjacent links in the succeeding row of links correspondingly in every row, the first and last rows of links being secured at  
20 their ends to the end bars of the frame.

2. The herein-described spring-link for manufacturing an elastic wire fabric, the same being formed with two spring-arms extending obliquely in the form of a V and curved both

in horizontal and vertical planes, said arms 25 being united at the apex by a flat coil and terminating at the free end in hooks, said coil and hooks forming the means for connecting a number of like links into a homogeneous wire fabric in the manner described. 30

3. In a wire fabric for bed-bottoms, the combination of a series of interlocked transverse rows of links, each link composed of a flat coil forming one end thereof and two arc-shaped arms extending obliquely therefrom 35 with their convex sides toward each other and terminating at the ends in hooks, the links in each row having their arms separately hooked in the coils of two adjacent links of the adjacent row of links whereby 40 said arms are connected in lines diagonally of the fabric.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR H. VIEL.

Witnesses:

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W. W. MILLARD.