

C. B. FRALEY.
 BED SPRING FABRIC.
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1,059,135.

Patented Apr. 15, 1913.

Fig. 1.

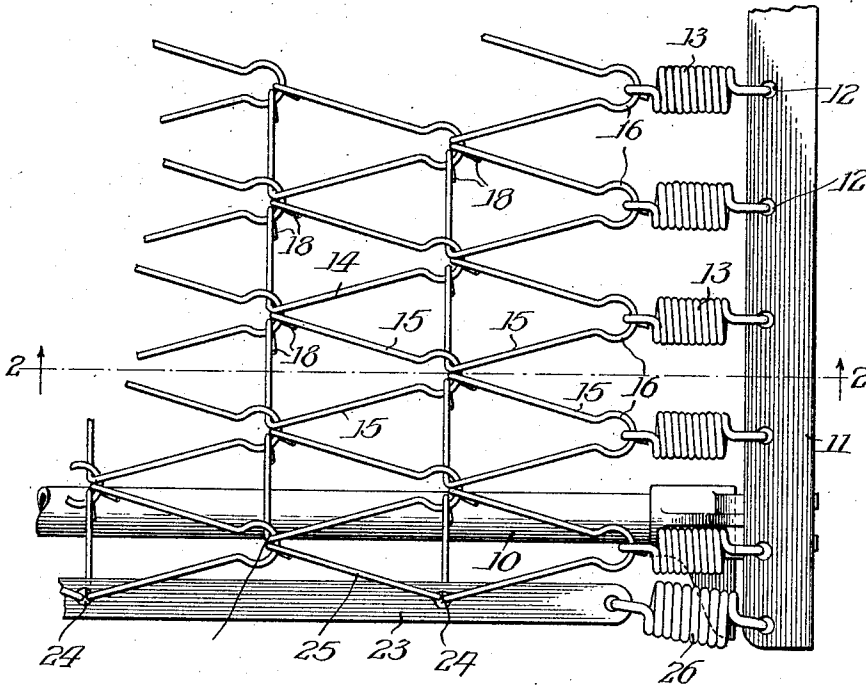


Fig. 3.

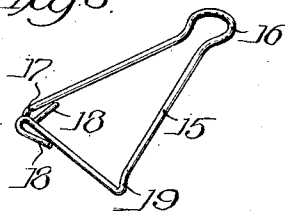
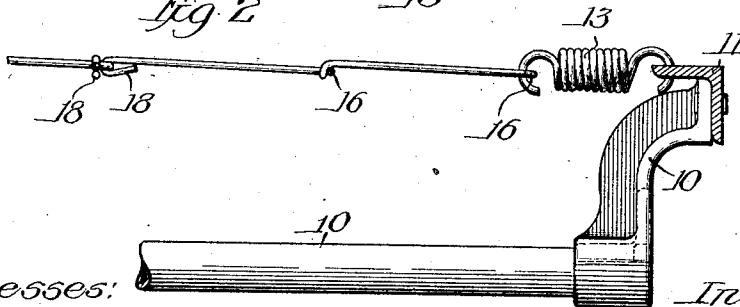


Fig. 2.



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UNITED STATES PATENT OFFICE.

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BED-SPRING FABRIC.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES B. FRALEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bed-Spring Fabrics, of which the following is a specification.

My invention relates in general to bed spring fabrics, and more particularly to devices of this sort wherein a fabric formed by inter-engaging wire units is yieldingly connected to a frame adapted to be disposed within a bed.

I am aware that various fabrics have been employed prior to my invention, but they have been found inconvenient and uncomfortable in that there has been no efficient means provided to restrain the excessive transverse flexibility heretofore possessed by such fabrics which has caused them to bag and sink in the center when a weight is supported thereby. Attempts have been made to secure the sides of the fabric to the side members of the frame of the spring, but the easy transverse collapsibility of the inter-engaged links heretofore used to form the fabric has produced too great tension in the side members and the elements connecting the said side members with the fabric, either distorting the side members or breaking or bending either the connecting elements or the links of the fabric to which the said elements are attached.

A principal aim of my invention is to provide a fabric comprising inter-engaged links of a form that will of themselves prevent the hereinbefore described bagging and sinking of the fabric when a weight is supported thereon and which will at the same time render a bed-spring provided with such a fabric sufficiently elastic and flexible to be comfortable.

A further aim of my invention is to provide a fabric for bed-springs composed of a plurality of inter-engaged triangular links so arranged and inter-locked that the force applied to the fabric will be conveyed directly to the end members of the frame, producing thereby little tension between the fabric and the side members, and obviating

the tendency heretofore possessed by such fabrics to pull away from the side members when a person reposes upon a bed provided with one of these springs. 55

A further aim of my invention is to so construct the fabric that the links will fall normally in alinement extending transversely of the spring in such manner that a leg of each of a set of links will fall substantially in the same straight line extending from one side member to the other across the spring. 60

Further aims and advantages of my invention will be apparent as it is better understood from the following description, which taken in connection with the accompanying drawing illustrates one preferred embodiment thereof. 65

On the drawings:—Figure 1 is a top view of a portion of a bed spring made in pursuance of my invention, Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1, and Fig. 3 is a perspective of an individual link used to construct the fabric shown in Fig. 1. 75

On the drawings like characters of reference refer to similar parts throughout the various views.

For the purpose of illustrating my invention, I have employed a frame 10, which may be of any desired construction and any desired form. Secured to the frame 10 at each end thereof, I have positioned an angle-iron 11 provided with a plurality of apertures 12. Secured to the said angle-irons 11 by means of a plurality of coiled springs 13 I have provided the fabric 14 formed of a plurality of inter-engaged triangular links 15 as will be hereinafter described. The springs 13 are each secured to a link 15 and to an angle-iron 11 through an aperture 12. The links comprising the fabric 14 are substantially triangular in form and are each composed of a single piece of bent wire as is illustrated in Fig. 3. As all the links are identical in shape and construction, a description of one of them will suffice for all. A single piece of wire is bent to form substantially an isosceles triangle having the apex distorted to form an eye 16 at the apex of the triangle. The two ends of the said piece of wire are bent back upon themselves 100

at one corner as at 17 to form the loops 18. The remaining corner 19 has one arm bent upwardly and inwardly. In a fabric built up of these links an eye 16 of each link is
 5 passed between the loops 18 of a link and moved to encircle the wire of the link at the corner 19 and is subsequently disposed within the two loops 18 of a similar link so that each eye engages a pair of loops of one link
 10 and a third corner of another link as is shown in Fig. 1. The links at the edges of the fabric disposed along the sides of the frame are adapted to be engaged with a member 23 in properly positioned apertures
 15 24 as by inserting therethrough a loop 18 and moving the link until the corner 19 engages the said aperture. The eyes 16 of these links are connected to the side members by the connecting arms 25. The ends of the members 23 are secured to the angle-irons 11 by means of a coiled spring 26 in manner similar to that described in connection to that of the means securing the end links to the said angle-irons.

25 It will be obvious that when the links have been engaged with each other as has been hereinbefore described to form the fabric, they will fall into a plurality of series of links extending transversely of the said fabric, having the bases of all the links of a series disposed in substantial alinement, which, when the fabric is secured, as has been defined, to a spring frame, extends thereacross substantially parallel to the end
 30 members of the said frame. It will be manifest also that such an arrangement will prevent the collapse of the links and provide in so doing against excessive contraction and corresponding compression so common
 40 in bed springs of this sort where diamond and other links heretofore employed have been used.

It will be manifest also that in so positioning the base of each link, and in connecting the links to the side members and ends as hereinbefore disclosed that the various strains and stresses produced in the fabric will be yieldingly transferred to the end members of the spring frame.

50 It will be obvious also that various changes may be made in the construction of the links, their arrangement and means of connecting them, as well as in the means of securing the fabric to the frame without departing from the spirit or scope of my invention or sacrificing any of its advantages, the form hereinbefore described being merely one preferred embodiment thereof.

I claim:—

60 1. A metallic fabric comprising a plurality of interengaged links of uniform shape, each of said links being triangular in form and the links being arranged in rows, the

links of a row each having a side disposed in a common line at right angles to the side edges of the fabric. 65

2. A metallic fabric comprising a plurality of interengaged links of uniform shape, each of said links being constituted of a single wire element bent to form an isosceles triangle, and the links of a row each having a side disposed in a common line at right angles to the side edges of the fabric. 70

3. A metallic fabric comprising a plurality of interengaged links of uniform shape, each of said links being formed of a single piece of wire bent to form approximately an isosceles triangle open at a base angle, the free ends of said piece of wire being bent back upon themselves at the open angle and embracing the angle of an appropriate link. 80

4. A metallic fabric comprising a plurality of interengaged links of uniform shape, each of said links being formed of a single piece of wire bent to form approximately an isosceles triangle and arranged in the fabric to dispose the base of the said triangle at right angles to the edges of the fabric. 85

5. A metallic fabric comprising a plurality of interengaged links, each of said links being formed of a single piece of wire bent to form approximately an isosceles triangle and arranged in the fabric to dispose the base of the said triangle at right angles to the edges of the fabric, each base angle of each link being formed to engage the apex of an appropriate link. 90 95

6. A metallic fabric comprising a plurality of interengaged links of uniform shape, each of said links being formed of a single piece of wire bent to form approximately an isosceles triangle, and having an apex distorted to form an eye interengaged with a pair of adjacent links. 100 105

7. A metallic fabric comprising a plurality of inter-engaged links, each of said links being bent to form approximately a triangle having one angle thereof distorted to form an eye, and having the ends bent back upon themselves at a second angle and engaging an eye of an appropriate link. 110

8. A metallic fabric comprising a plurality of inter-engaged links, each of said links being formed of a single piece of wire bent to form a triangle having one corner distorted to form an eye, and the ends bent back upon themselves at a second corner adapted to engage with the eye of an appropriate link, and having the third corner bent to engage the eye of an appropriate link, whereby an eye of one link engages the third corner of a second link and the bent back ends of a third link. 115 120

9. A metallic fabric comprising a plurality of interengaged links of triangular form, 125

each of said links having one angle distorted and interengaged with a pair of links, and a second angle distorted and interengaged with a single link.

ed and interengaged with a pair of links, and the remaining angles appropriately formed and each engaged with a single link.

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Witnesses:

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5 10. A metallic fabric comprising a plurality of interengaged links of triangular form, each of said links having one angle distort-

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