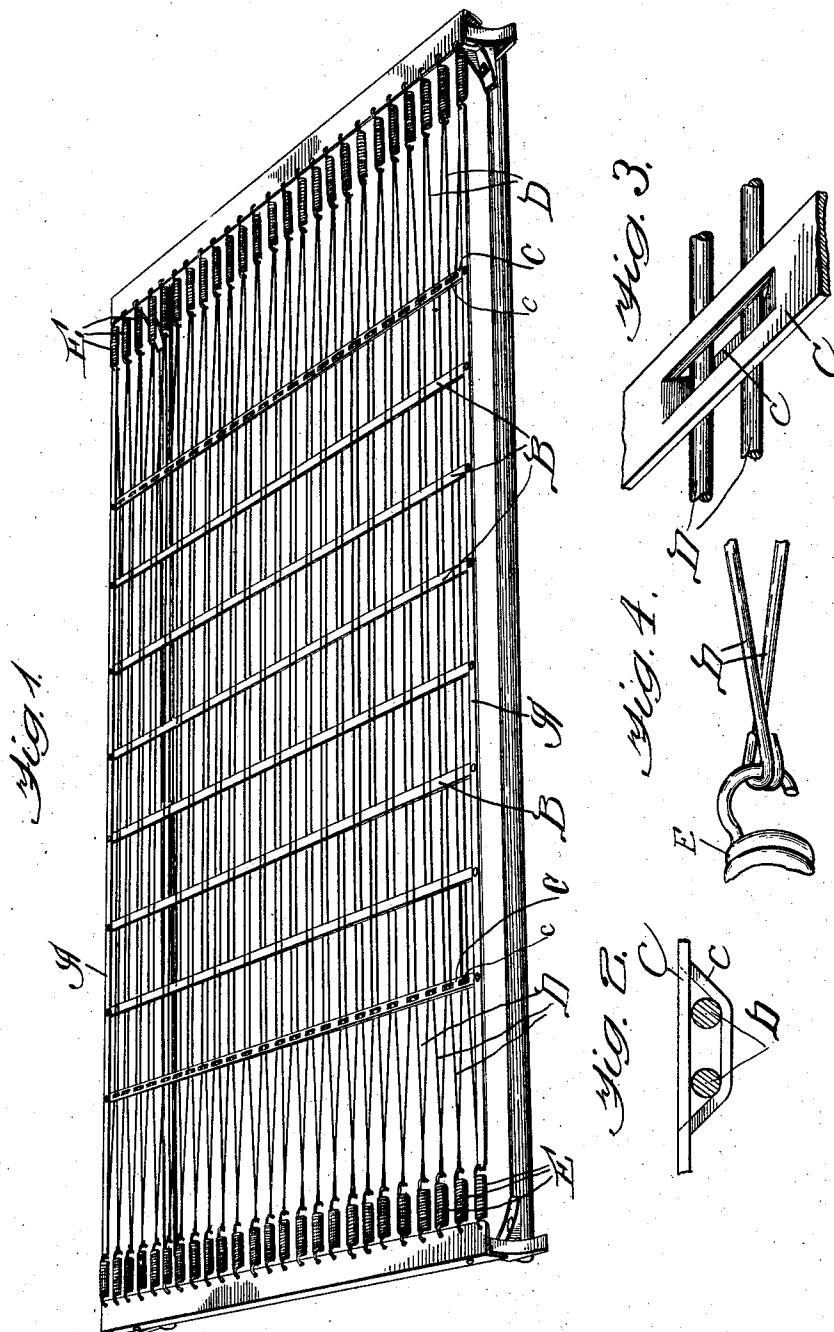


W. J. GROTENHUIS.
BED OR COUCH FABRIC,
APPLICATION FILED MAR. 16, 1911.

1,021,772.

Patented Apr. 2, 1912.



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UNITED STATES PATENT OFFICE.

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BED OR COUCH FABRIC.

1,021,772.

Specification of Letters Patent.

Patented Apr. 2, 1912.

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To all whom it may concern:

Be it known that I, WILLIAM J. GROTENHUIS, a citizen of the United States of America, and resident of Chicago, Cook
5 county, Illinois, have invented a certain new and useful Improvement in Bed or Couch Fabrics, of which the following is a specification.

My invention relates to metallic fabrics
10 for beds or couches in general, but more particularly to fabrics of this kind in which transverse and longitudinal members are employed, the longitudinal members being
15 connected by springs to the end bars of a rigid frame on which the fabric is stretched, and in which the longitudinal members, except those at the sides of the fabric, have sliding contact with the transverse members.

The object of my invention is to provide
20 an improved construction whereby the said longitudinal members which have sliding contact with the transverse members may be made of wire, thus reducing the cost of manufacture, and whereby the fabric is
25 stayed against lateral displacement, as will hereinafter more fully appear.

To these and other useful ends, my invention consists in matters hereinafter set forth and claimed.

30 In the accompanying drawings,—Figure 1 is a perspective of a bed or couch fabric embodying the principles of my invention, showing the same stretched on a frame to form a mattress. Fig. 2 is an enlarged cross
35 section of two of the longitudinal wire members, showing the adjacent portion of one of the transverse members by which the said wire members are held against lateral displacement. Fig. 3 is a perspective of the
40 parts shown in Fig. 2. Fig. 4 is a perspective of one of the connections between the springs and the wire members.

As thus illustrated, my invention comprises side slats A and cross slats B, the
45 latter having their ends riveted or suitably secured to the said side slats, whereby the said cross slats are spaced apart. The end slats C are also secured at their ends to said side slats, and are provided on their lower
50 surfaces with eyes c which are spaced apart and arranged in a row lengthwise of said slats. In this way the said slats form a flexible and resilient fabric frame of rectangular shape. The longitudinal wires forming
55 the members D are interwoven with the

cross slats B, and are arranged in pairs, each pair passing through an eye on each of the end slats C, as shown in Figs. 2 and 3. The said side slats A and intermediate longitudinal wire members have their ends secured to the helical springs E, but the members of each pair of wires do not lead to the same springs at their opposite ends, but to different springs. In other words, the ends of each pair are spread apart and attached to different springs, thus making each pair subject to the tension of four springs. A wire of each pair combines with a wire of the adjacent pair, at each side, to form a closed loop each tapered end of which terminates in a single spring, the straight middle portions of these loops forming the body of the fabric. Thus each closed loop forms a longitudinal member which is capable of endwise sliding movement independently of the other longitudinal members. The eyes c serve to equalize the spaces between the pairs of wires, and the flaring or spreading apart of the ends of the wires of each pair tends to prevent lateral displacement of the fabric when weight is thrown thereon. In other words, the longitudinal members do not readily move sidewise, and the sides of the fabric do not readily pull inward when weight is imposed upon the center of the fabric. There is enough yield and resiliency to make a comfortable mattress, but at the same time the fabric as a whole remains stretched sufficiently smooth and tight to insure the best results. The freedom of endwise sliding movement on the part of the wires contributes to the desirability of the fabric, as this makes it more yielding and comfortable in use.

The springs E are connected to end bars F which are connected and rigidly spaced apart by the side bars or rails G that are subject to an endwise compressive strain when the fabric is in place.

Thus it will be seen that I provide an improved and highly efficient metallic fabric for use in beds or couches. Being composed largely of wire, it is comparatively cheap to manufacture.

What I claim as my invention is:

1. In a bed or couch fabric, a supporting frame having end bars, interwoven longitudinal and cross members, of resilient metal, springs for connecting the longitudinal

members with the said bars, said longitudinal members comprising a plurality of wires, and means for spreading said wires and thereby spacing the same apart in pairs, each longitudinal member being in the form of a closed wire loop having a straight middle portion and tapered ends, the wires of each said pair terminating in four different springs, and each tapered end terminating in a single spring.

2. In a bed or couch fabric, a supporting frame having end bars, interwoven longitudinal and cross members, of resilient metal, springs for connecting the longitudinal members with the said bars, said longitudinal members comprising a plurality of wires, and means for spreading said wires and thereby spacing the same apart in pairs, each longitudinal member being in the form of a closed wire loop having a straight middle portion and tapered ends, the wires of each said pair terminating in four different springs, and each tapered end terminating in a single spring, said means consisting of flexible metal cross slats having eyes formed by slits extending lengthwise thereof, each eye holding a pair of wires, whereby said wires are entirely free to slide endwise on said cross members.

3. In a bed or couch fabric, a supporting frame having end bars, interwoven longitudinal and cross members, of resilient metal, springs for connecting the longitudinal members with the said bars, said longitudinal members comprising a plurality of wires, and means for spreading said wires and thereby spacing the same apart in pairs, each longitudinal member being in the form of a closed wire loop having a straight middle portion and tapered ends, the wires of each said pair terminating in four different springs, and each tapered end terminating in a single spring, said cross members consisting of flexible metal slats having only sliding contact with said wires, and means for spacing the said slats apart.

4. In a bed bottom, a fabric having a rectangular frame of resilient longitudinal and transverse metal slats, a supporting frame

having end bars, springs connecting the projecting ends of the longitudinal slats with the said bars, flexible cross slats having their ends secured to said longitudinal slats, wires forming longitudinal members which are interwoven with said cross slats, springs for connecting the ends of said wire members to the said bars, the transverse slats of said fabric frame being provided with eyes for spreading the wires apart to form pairs, each eye holding a pair of wires, whereby the longitudinal wire members are free to slide endwise on the said fabric frame.

5. In a bed or couch fabric, a supporting frame having end bars, longitudinal and cross members, of resilient metal, springs for connecting the longitudinal members with the said bars, said longitudinal members comprising a plurality of wires, and means for spreading said wires and thereby spacing the same apart in pairs, each longitudinal member being in the form of a closed wire loop having a straight middle portion and tapered ends, the wires of each said pair terminating in four different springs, and each tapered end terminating in a single spring.

6. In a bed bottom, a fabric having a rectangular frame of resilient longitudinal and transverse metal slats, a supporting frame having end bars, springs connecting the projecting ends of the longitudinal slats with the said bars, flexible cross slats having their ends secured to said longitudinal slats, wires forming longitudinal members which are combined with said cross slats, springs for connecting the ends of said wire members to the said bars, the transverse slats of said fabric frame being provided with eyes for spreading the wires apart to form pairs, each eye holding a pair of wires, whereby the longitudinal wire members are free to slide endwise on the said fabric frame.

Signed by me at Chicago, Illinois, this 13th day of March 1911.

WILLIAM J. GROTENHUIS.

Witnesses:

R. KEARNS,
S. LEWIS.