

W. J. GROTENHUIS.
BED OR COUCH FABRIC.
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1,051,838.

Patented Jan. 28, 1913.

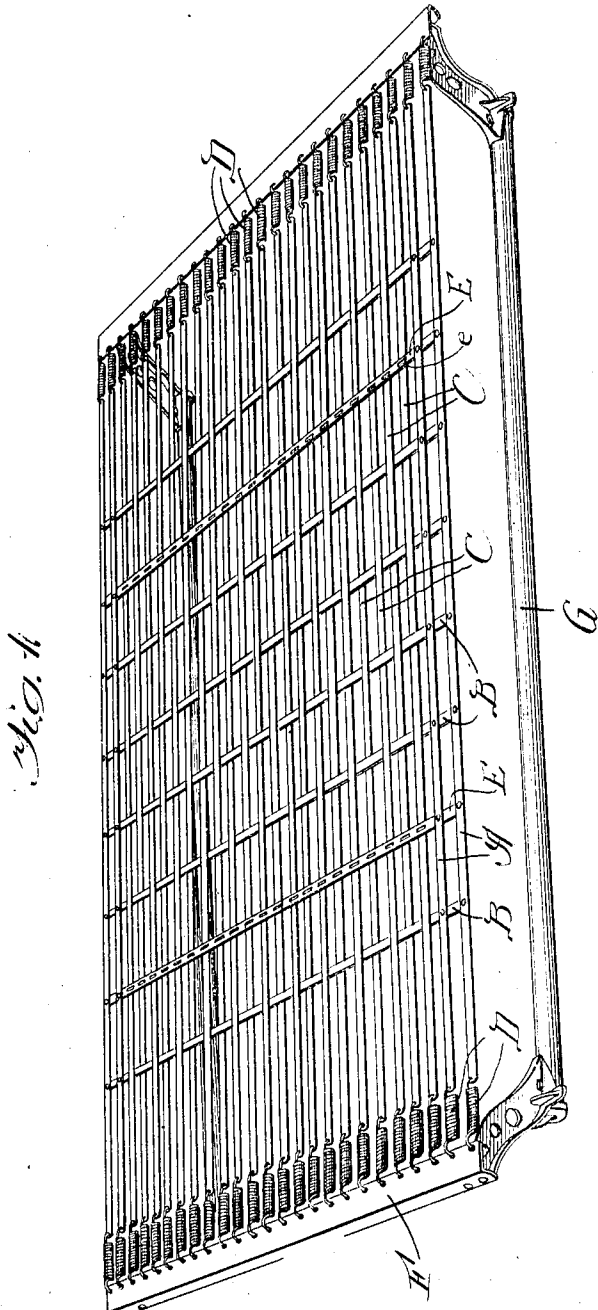


Fig. 1

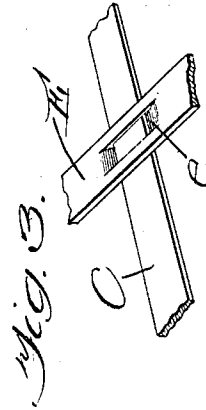


Fig. 3.

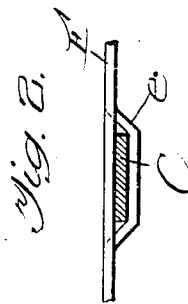


Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM J. GROTENHUIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO SANITARY STEEL
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BED OR COUCH FABRIC.

1,051,838.

Specification of Letters Patent.

Patented Jan. 28, 1913.

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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 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 for couches or beds in general, but more particularly to fabrics of this kind in which transverse and longitudinal members are interwoven to form a supporting structure, and in which the yielding or resilient effect is produced by helical springs to which the ends of the longitudinal members are secured, whereby the entire fabric is flexible and springy when subjected to weight, and whereby each longitudinal member is free to slide endwise on the transverse members to equalize the tension of the springs at opposite ends of said fabric, the said transverse members being tied together at their ends to form a ladder-frame which is movable endwise by reason of the springs at each end thereof.

The object of my invention is to provide in a fabric of the foregoing character, a number of additional members which extend over all the self-adjusting longitudinal members, and means auxiliary to the interweave of the fabric for preventing the longitudinal members from spreading apart, said means being disposed on the underside of said additional members to prevent injury to the bedding, and lateral movement of said longitudinal members being incoporated by the transverse members except for the friction caused by the interweave, whereby the fabric is not only firm and noiseless, but also of such character that the longitudinal members are held in place by the ladder-frame which is formed in part by said additional members, but without in any way interfering with the said endwise sliding self-adjustment of said longitudinal members.

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

In the accompanying drawings, Figure 1 is a perspective of a metallic 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 en-

larged section of one of the longitudinal slats or members, showing the adjacent portion of one of the cross slats which are provided with eyes that receive the longitudinal members, and that preserve or equalize the spaces between said members. Fig. 3 is a perspective of the parts shown in Fig. 2.

As thus illustrated, my invention comprises side slats A, two at each side of the fabric, which are spaced apart and permanently connected by cross slats B riveted thereto. In this way a truss or stiff frame is provided at each side edge of the fabric. The intermediate longitudinal members C are interwoven with the cross members B and have free sliding contact therewith. The members or slats A and C have their ends connected to helical springs D, whereby these members C are free to slide endwise on the cross members, and this contact is free and unrestricted. With this arrangement, each longitudinal member is free to adjust itself endwise to equalize the tension of the springs at opposite ends thereof. In order to equalize the spaces between the slats or members C, and prevent the latter from being displaced laterally, cross slats E are provided, each slat being disposed about midway between one end of the fabric and the center thereof. Each slat E is provided on its under surface with eyes *e* that are spaced apart and arranged in a row. The slats C are threaded through the eyes *e* and are thus held against lateral displacement without interfering with the sliding contact which the members C must have in order to have free endwise shift independently of each other. In this way each member C pulls upon its springs D, one at each end, and does not pull upon anything else, as it has no point of attachment to any other portion of the fabric. The eyes *e* are disposed on the underside of the additional cross members F to prevent injury to the bedding. With this arrangement, therefore, means are provided auxiliary to the interweave to prevent the longitudinal members from spreading apart. The trusses or stiff frames formed by the members A, and the end portions of the cross members, serve to prevent lateral displacement or distortion of the sides of the fabric, when weight is thrown upon the center of the fabric, thus preventing undesirable sagging. The springs D are attached to the end bars F which are con-

nected and spaced apart by the side bars G to form a mattress frame upon which the metallic fabric is stretched.

Thus it will be seen that I provide an improved and highly efficient metallic fabric for beds and couches. I do not, of course, limit myself to the exact construction shown and described.

What I claim as my invention is:

1. A bed frame and resilient metal fabric stretched thereon, comprising two sets of longitudinally opposed springs for uniting the opposite ends of the fabric with the bed frame, and means whereby the transverse action of the fabric, and also the longitudinal action thereof, are sustained entirely by the said springs, including longitudinal members having free and unlimited sliding self-adjustment on the fabric to equalize the tension of the springs at opposite ends thereof, and cross members provided with devices for preventing lateral displacement of said longitudinal members without interfering with the free endwise sliding self-adjustment thereof, the fabric being interwoven throughout the area between said cross members.

2. A bed frame and resilient metal fabric stretched thereon, comprising two sets of longitudinally opposed springs for uniting the opposite ends of the fabric with the bed frame, and means whereby the transverse action of the fabric, and also the longitudinal action thereof, are sustained entirely by the said springs, including longitudinal members having free and unlimited sliding

self-adjustment on the fabric to equalize the tension of the springs at opposite ends thereof, and cross members provided with devices for preventing lateral displacement of said longitudinal members without interfering with the free endwise sliding self-adjustment thereof, the fabric being interwoven throughout the area between said cross members, and said devices being disposed on the under side of the fabric.

3. A bed frame and resilient metal fabric stretched thereon, comprising two sets of longitudinally opposed springs for uniting the opposite ends of the fabric with the bed frame, and means whereby the transverse action of the fabric, and also the longitudinal action thereof, are sustained entirely by the said springs, including longitudinal members having free and unlimited sliding self-adjustment on the fabric to equalize the tension of the springs at opposite ends thereof, and cross members provided with devices for preventing lateral displacement of said longitudinal members without interfering with the free endwise sliding self-adjustment thereof, the fabric being interwoven throughout the area between said cross members, and said devices being formed to prevent injury to the bedding.

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

WILLIAM J. GROTENHUIS.

Witnesses:

R. KEARNS,
S. LEWIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."